2022 CanSinoBIO

2022 Environmental, Social and Governance & Corporate Social Responsibility Report



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Social Empowerment

100

About the Report

The Report is the fourth Environmental, Social, and Governance (ESG) report issued by CanSino Biologics Inc. since 2018. It is also the first time that we have combined and released the Environmental, Social, and Governance (ESG) report and the Corporate Social Responsibility (CSR) report. Following the principle of objectivity, normativity, transparency, and comprehensiveness, the Report provides a genuine disclosure of CanSinoBIO's ESG practices and social responsibility performances to all stakeholders in such areas as business operation and development, environment conservation, employees and community, as well as value chain optimization.

Basis of Preparation

The Report is prepared in accordance with the *Environmental*, *Social and Governance Reporting Guide* set out in Appendix 27 to the *Main Board Listing Rules of the Hong Kong Exchanges and Clearing Limited* and the *SSE Environmental Information Disclosure Guidelines for Listed Companies* by Shanghai Stock Exchange, as well as the requirements of the *GRI Standards* issued by the Global Sustainability Standards Board (GSSB).

Scope of Report

The Report involves the major R&D and manufacturing sites and workplaces of CanSino Biologics Inc., namely the office buildings, vaccine manufacturing campus phase I, and vaccine manufacturing base for COVID-19 vaccines in Tianjin, China. The Report covers the period from January 1, 2022 to December 31, 2022, with some reviews over previous years and the forecast of 2023 when necessary. Notes will be found in the text when the data scope is inconsistent with the Report.

Source of Information

The information and cases herein were extracted mainly from the Company's statistical reports, internal communications and other relevant documents. The financial data involved are sourced from the annual financial statement of CanSino Biologics Inc. unless otherwise specified. Other data comes from internal statistics and manual collation within the Company.

Reporting Principle

lateriality:	The Company follows the materiality assessment p contents should be disclosed in the Report. The rest the chapter "Stakeholder Communication".
uantitative:	The Report discloses the quantitative information performance in main ESG KPIs.
alance:	The Report objectively discloses both positive and r
onsistency:	The Report is the fourth ESG report published by C otherwise specified. We will prepare the future E according to the actual management, and disclose possible to help readers better understand how in the data disclosed in the Report are counted accor mechanism established by the Company to ensure

References

To facilitate presentation and reading, in the Report, "CanSino Biologics Inc." is also referred to as "CanSinoBIO", "the Company", or "we". CanSino Biologics Inc. and its subsidiaries are referred to as "the Group". The monetary unit adopted in the Report is RMB (yuan) unless otherwise specified.

Access to the Report

The Report in Chinese and English can be downloaded on the official website of CanSino Biologics Inc. (www. cansinotech.com), on SSE's website (www.sse.com.cn) or HKEX's website (www.hkexnews.hk). The Chinese version shall prevail in case of any discrepancy between the Chinese version and the English version.

For any questions or suggestions concerning the Report, please send emails to ir@cansinotech.com or call us at 022-58213766.

procedure to determine what and to which extent these sults of the materiality analysis in 2022 are available in

on environmental and social aspects to present our

negative information to ensure balanced disclosures.

CanSinoBIO. Data disclosed herein are for 2022 unless ESG report with consistent statistical methodologies a the comparative data for consecutive years as far as indicators change over time. Unless otherwise stated, rding to the unified information collection process and comparability.

About CanSinoBIO

Company Profile

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Incorporated in TEDA West District, Tianjin in 2009, CanSino Biologics Inc. is a high-tech company dedicated to the R&D, production and commercialization of high-quality innovative vaccines (abbreviation in H-share: CanSinoBIO 06185.HK, abbreviation in A-share: CanSinoBIO 688185. SH).

CanSinoBIO has gathered a collection of senior vaccine scientists and technical experts who once worked for huge pharmaceutical companies at home and abroad. With excellent management skills and strong R&D capabilities, CanSinoBIO has rapidly promoted the R&D, production and commercialization of innovative vaccines. As a leading company in innovative vaccine R&D, we are committed to global public health security. fulfilling social and international responsibilities by unswervingly developing and providing high-quality vaccines and making contributions to global public health.





Establish five core technology platforms: viral vector-based technology, synthetic vaccine technology, protein structure design and VLP assembly, mRNA vaccine technology, and formulation and delivery technology.



The R&D pipeline covers 18 kinds of innovative vaccines in more than 10 disease fields such as meningitis, Ebola virus disease, DPT, pneumonia, tuberculosis, novel coronavirus (COVID-19), herpes zoster, etc.

Vaccine manufacturing

CanSinoBIO has established large-scale modern vaccine commercialization bases in Tianjin and Shanghai, China, and has built multiple local production lines in countries and regions such as Mexico, Pakistan and Malaysia to supply innovative vaccines to multiple locations.



Collaborations

The Company has established partnerships with AstraZeneca, Vaccitech, Ocugen, BIRD-C and McMaster University, etc.

Under the mission of "To Provide the World with Innovative, High-Quality and Accessible Vaccines", CanSinoBIO proactively fulfills the vision of "Innovation for a Safer World". We pursue the value of "Respect, Agility, Innovation, Superior in Quality and Engagement" to treasure the reverence and protection of life.

Culture and Value





Milestones in 2022



★ The first Shanghai made Recombinant Novel ★ Dr. Shou Bai CHAO, the Execu-Coronavirus Vaccine (Adenovirus Type 5 Vector) Convidecia® was supplied to the market. This vaccine was produced by Shanghai Shangyao CanSinoBIO Biopharmaceutical Co., Ltd., laying a solid foundation for Shanghai to build a biopharmaceutical hub and a large-scale production base for vaccines against major infectious diseases.



Jul

tive Director and Deputy General Manager of CanSinoBIO, was awarded the title of "Excellent Entrepreneur" in the Binhai New Area of Tianjin Entrepreneur Team Building "111" Project.



June

★ The recombinant novel coronavirus vaccine (adenovirus type 5 vector) Convidecia[®], was approved by the Joint Prevention and Control Mechanism of the State Council and became the first adenovirus vector COVID-19 vaccine approved for sequential boost immunization in China.



★ The local vaccine filling production line in Malaysia obtained the GMP certification granted by the National Pharmaceutical Regulatory Agency (NPRA) of Malaysia, allowing the recombinant novel coronavirus vaccine (adenovirus type 5 vector) Convidecia® to be filled locally to improve the accessibility and affordability of COVID-19 vaccine and help the locals quickly build immune barriers.



★ The patent of CanSinoBIO, one of the inventors, for "recombinant SARS-CoV-2 vaccine using human replication-defective adenovirus as vector" won the 23rd WIPO-CNIPA Award for Chinese Outstanding Patented Invention.



★ Group ACYW135 meningococcal polysaccharide conjugate vaccine (CRM197) Menhycia®, the first batch of products obtained the Biological Products Batch Release Certificate issued by NMPA and was marketed for sale. This product filled the gap in high-end epidemic cerebrospinal meningitis (hereinafter "meningitis") conjugate vaccines and would bring more comprehensive and high-quality protection to Chinese children.



★ CanSinoBIO participated in the signing ceremony for the joint development of human vaccines between China and Malaysia. The Company has signed cooperation agreements with the National Institute of Biotechnology of Malaysia (NIBM) and the Malaysian pharmaceutical company Solution Biologics. The long-term cooperation covers R&D, training and commercialization of human vaccines. The three sides from the two countries plan to gather collective resources and wisdom to develop innovative and high-quality vaccines to benefit more people.

May



March

★ The recombinant novel coronavirus vaccine (adenovirus type 5 vector) Convidecia[®] was approved by Badan Pengawas Obat dan Makanan (BPOM) (National Agency of Drug and Food Control*) of Indonesia as the sequential boost immunization of the inactivated vaccine for COVID-19 to help Indonesia effectively fight against Omicron variants.



April

★ The COVID-19 mRNA vaccine received the Clinical Trial Approval approved and issued by the National Medical Products Administration (hereinafter "NMPA"), which marked the Company's another research breakthrough in combating COVID-19.



Milestones in 2022

★ Group ACYW135 meningococcal polysaccharide conjugate vaccine (CRM197) Menhycia[®] became the first batch to be successfully shipped. This was the first time that the vaccine was marketed following its launch, marking a milestone in China's meningitis vaccine development to parallel world class standards.



August

★ CanSinoBIO warmly received diplomatic missions from the five member countries of the Pacific Alliance, namely, Chile, Colombia, Mexico, Peru, and the observer state Ecuador to China. They exchanged views on existing innovative vaccine technologies and cooperation in the vaccine industry.



 CanSinoBIO's recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®], was listed in *The Guardian's* 10 biggest science stories of 2022 chosen by scientists.



 CanSinoBIO won the "2022 Human Resources Management Best Practice Award of China" issued by the HRA.



 CanSinoBIO was awarded the title of "Aon's 2022 China Best ESG Employer".



★ The Company announced that, after being recommended by the National Health Commission (referred to as "NHC"), the recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®], was approved by NMPA on the expert demonstration to be included as a booster for emergency use. Subsequently, booster vaccination of the world's first COVID-19 vaccine for inhalation, needle-free and painless, was launched in Shanghai. Tianiin. Jiangsu, Shandong, Guizhou and other regions of China. Convidecia Air[®] provided the vaccinators with double protection with a better vaccination experience.



★ China and Indonesia reached new cooperation on innovative vaccine R&D during the G20 Leaders' Summit in Bali, Indonesia. CanSinoBIO signed cooperation agreements with PT Etana Biotechnologies Indonesia (Etana), an Indonesian biopharmaceutical company, on behalf of China and Indonesia on inhaled vaccine technology and meningitis vaccine. With the support of the two countries, both sides will be able to fully leverage their advantages to promote the joint development and commercialization of innovative vaccines and assist Indonesia in building a regional vaccine manufacturing center.





CanSinoBIO was among the Top 20 Chinese Pharmaceutical Listed Companies with ESG Competitiveness in 2022.

022中国医药上市公司ESG竞争力系列评选

2022中国医药上市公司 ESG竞争力TOP20

★ CanSinoBIO signed a strategic cooperation agreement with AstraZeneca Investment (China) Co., Ltd. to cooperate on the use of tetravalent meningococcal conjugate vaccines and complement inhibitors in rare disease diagnosis and treatment. This cooperation was crucial to the standardised treatment of approved rare diseases in China; it also guarantees the future R&D pipeline of complement inhibitors and further improves the domestic rare disease diagnosis and treatment ecosystem.



Chairman's Statement



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We should focus more on where we are going rather than where we are. Our vision is the measure of how far we can go. Our vaccine products serve society and the public, responsible for the present and the future.

" " –

While earning praise and acclaim in 2022, CanSinoBIO shouldered great responsibility for multiple public health challenges worldwide. To combat COVID-19, we successively released Convidecia® and Convidecia Air® to build barriers against the virus for hundreds of millions of people. To enhance the domestic prevention and control of meningitis, our tetravalent meningococcal conjugate vaccine Menhycia[®], was launched for sale and became the major product for conventional immunization. If products represent the business card of a company, the commitment to R&D and talent team building, corporate citizenship responsibility undertaking and green low-carbon development is the inexhaustible mainspring for our sustainable development. Looking back at the last year, CanSinoBIO adheres to an open and tolerant mindset and insists on a proactive business idea of seeking change, focuses on the world and makes comprehensive efforts, and retains its restless business management philosophy enable a better future for China and beyond under our mission of "Health, Hope, and Promises."

We have pursued changes with progressive endeavors.

R&D drives our innovation which has spurred our rapid rise. With the spirit of uniqueness and differentiation, we are thoroughly engaged in vaccine R&D to enrich and improve vaccine pipelines and innovate drug delivery methods, familiarizing the public with vaccination and disease prevention. In 2022, Convidecia Air[®] was widely recognised by the industry authorities for its innovative delivery through inhalation that provided mucosal immunity and gradually became one of the directions for upgrading the COVID-19 vaccine development. This way, CanSinoBIO has been at the forefront of the industry ahead of time. Our meningitis conjugate vaccine Menhycia[®], prevents the widest range of microbiomes and allows first vaccination to infants aged 3 months in China. It is expected to replace the traditional polysaccharide vaccines to protect more Chinese infants and children from meningococcal meningitis.

From China to the world, we have expanded our offerings worldwide. With affordable vaccines, we looked out for each other to make our products widely available overseas. We are constantly considering and actively addressing how we can leverage our existing advanced technology and industrial capabilities to drive changes. The successful approval of Convidecia[®] by the World Health Organization for "emergency use listing" (WHO EUL) has proven our international competitiveness. In 2022, CanSinoBIO continued to collaborate with governments in underdeveloped countries and regions regarding technical expert communication, technology transfer, and product commercialization, actively contributing to the equitable distribution of vaccines. From Southeast Asia to Europe and from South America to Africa, our Convidecia[®] and Convidecia Air[®] have contributed to building a community of common health for humanity and bridging the immunization gap with the power of China.

We have controlled risks and emphasised systems. In

terms of corporate operations, we firmly and steadily explore new ideas on ESG governance. We continuously optimise our corporate governance system and operating mechanism and integrate the ESG governance structure composed of the Board of Directors, the Audit Committee and the ESG Working Group by implementing scientific, efficient, stable and sustained decision-making and supervising mechanism. We uphold honesty, integrity, self-discipline and risk control. In 2022, CanSinoBIO collaborated with all stakeholders to achieve win-win results through strict business ethics, experimental ethics, information security, and supply chain management.

We have seized opportunities to forge ahead. We ensure the quality and safety of our products and services. Our large-scale industrial bases and mature full-process quality management procedures enable us to continuously upgrade and improve the clinical operation system and improve the vaccine production quality management system for strict quality control. In 2022, all batches of our products passed full-process quality testing. We also worked closely with upstream and downstream partners including material suppliers, national consigned storage sub-warehouses, and mainline transporters to provide customers with more convenient and efficient services.

We have leveraged unique team building excises as morale boosters. We gather global elites to grow together in our open and inclusive workplace. We are all motivated by the same dream - "Innovation for a Safer World." We believe every insight comes from collective brainstorming and efforts. CanSinoBIO has actively created a diverse, impartial, and inclusive culture that protects employee rights, brings out their best and protects their health. We were awarded the "2022 Human Resources Management Best Practice Award of China" and the "Aon's 2022 China Best ESG Employer." These awards are the recognition of our human resources endeavors and mark a new beginning for the next passionate decade when we still remain dedicated to the "CanSino family".

We're committed to green development and social welfare. We embrace our corporate responsibility in lowcarbon development and public campaigns. In response to the country's strategy of carbon peaking and carbon neutrality, we have identified the quantitative reduction of each environmental target from 2025 to 2030 for the first time and remained laser-focused on improving the effectiveness of environmental management. Aligning ourselves with the Task Force on Climate-Related Financial Disclosures (TCFD), we have taken practical actions to mitigate the environmental impact of our operations. We care about the community's needs and public health through activities such as offering donations, anti-pandemic programs and health science education. In 2022, CanSinoBIO embarked on a path of green development, with a significant decline in GHG emission intensity over the last year. At the same time, we have sponsored charities and contributed to a healthy and mutually supportive society.

With the passage of time from Spring to Winter, every member of the "CanSino family" was working hard to the full in 2022. As an entrepreneur, I always recall how we have braved the wind and the rain to grow from a laboratory to an internationally leading industrial base and China's first vaccine stock listed both on Shanghai Stock Exchange (SSE) and Hong Kong Stock Exchange (HKEX). Staying true to our aspirations and inspired by past achievements, we will double our efforts to meet the challenges in 2023 with confidence. CanSinoBio remains dedicated to providing solutions worldwide for the prevention of infectious and contagious diseases. For years to come, our multiple vaccines will continue to successfully compete with major players in the global market. This way, we seek to build a moat of immunity for Chinese people and others around the world.

Chairman and Chief Executive Officer

Dr. Xuefeng YU

ESG Overview

As a world leading vaccine company, CanSinoBIO remains steadfast in integrating Environment, Social, and Governance concepts in all of its operational development. We strive to enhance our ESG management mechanisms, are deeply committed to product R&D and technological innovation and willingly assume our social responsibilities. We proactively respond to the UN's sustainable development goals. With the mission to provide solutions for the prevention of infectious and contagious diseases worldwide, we continue to empower the commercialization of results with advanced global technologies, making innovative, high-quality vaccine products globally accessible, and working relentlessly to enhance human health and promote the development of global public utilities.



Board Statement

The Board of CanSinoBIO is the highest decision-making body of the Group responsible for overseeing ESG matters. It regularly supervises and ensures the effective enforcement of environment, social, and governance strategies, objectives, and policies to continuously improve the risk resilience of CanSinoBIO. ESG-related functions have been incorporated into the scope of the Audit Committee's duties, which regularly reports to the Board and makes sure the Board approves significant matters related to ESG.

In 2022, CanSinoBIO integrated ESG concepts into its routine management. After assessing the social- and macro-environment at home and abroad and the strategic development status of the Group, and responding to the expectations of various stakeholders and the national requirements for carbon peaking and carbon neutrality, we regularly carried out the materiality assessment of ESG issues and ESG risk determination to regularly review ESG objectives and supervise and ensure the implementation and on-going improvements in the ESG management. CanSinoBIO continuously strengthened compliant operations and accelerated product R&D innovation. We pursued superior quality and helped promote global health and wellbeing. Being people-oriented, we have provided employees with fair and equitable opportunities for career advancement. On the wider social front, we have undertaken our social responsibilities and contributed to poverty alleviation efforts. In keeping with the priority of low-carbon green operation, we practiced environmentally friendly and low-carbon production. Meanwhile, we collaborated with supply chain partners to promote the sustainable development of society.

This Report details the progress and effectiveness of CanSinoBIO's ESG efforts in 2022 and was deliberated and approved at a board meeting on March 27, 2023.

ESG Governance

CanSinoBIO is committed to fully integrating the concept of sustainability into our development strategy, production and operation. With reference to the UN's sustainable development goals and the expectations of various stakeholders, we proactively completed the ESG governance structure and collaborated with various parties to create sustainable development value.

ESG Governance System

CanSinoBIO promotes the in-depth integration of ESG governance and corporate governance systems to improve our ESG governance structure, specify graded governance functions and ensure ESG institutionalization, standardization, and professional management. A well-defined governance structure has been established, consisting of the Board, the Audit Committee, and the ESG Working Group. The Board and the Audit Committee constitute the governance body, while the ESG Working Group, as an executive arm, leads and coordinates all departments to strengthen overall ESG management.

We place significant emphasis on the ESG risks that may impact our operations, and we have implemented an ESG governance structure to realize ESG risk management, efficiently improving our resilience to these risks. The Company conducts a comprehensive assessment of ESG risks in our business process from environment, social, and governance aspects, according to national laws and regulations, industry characteristics, as well as in combination with our business features. After the Audit Committee identifies ESG risks, the Board conducts risk assessments and develops corresponding plans. The ESG Working Group coordinates the management and mitigation of ESG risks across departments. We implement ESG risk prevention and controls by enhancing our internal management processes, conducting regular internal audits and on-site inspections, and providing training to improve employees' awareness of risk management.

ESG Governance Structure



SDGs' Performance and Response

In accordance with the requirements of the UN's Sustainable Development Goals (SDGs) and the company's development philosophy and planning, we integrate SDGs into our corporate culture building and regular operational activities. We aim to leverage our capabilities in vaccine R&D and production business to empower the commercialization of innovations in advanced technology, safeguard human health and well-being through practical actions, and make a meaningful contribution to the realization of the SDGs.



1 No poverty

CanSinoBIO fully utilises our strengths to carry out public services such as providing assistance to the hospital, the handicapped, the elderly, orphans, schools, and those affected by disasters. In 2022, we donated a total of more than RMB1.31 million to various charities.

Corresponding Chapter: Social Empowerment

3 Good health and well-being

CanSinoBIO promotes access to health care. With our advantages in products and technologies, we help people in low-income regions and developing countries get access to safe and high-guality vaccines at affordable prices.

Corresponding Chapter: Access to Health Care

5 Gender equality

CanSinoBIO does not tolerate any form of discrimination by any factor or cause. We ensure equal employment opportunities for women and took multiple measures to promote women's participation in decision-making and management. In 2022, 46.22 percent of our employees of the Group were women, and 46.26 percent of the management of the Group were females.

Corresponding Chapter: Employment Management

8 Decent work and economic growth

CanSinoBIO enriches various professional training programs, focusing on all-dimensional improvement of the three aspects of leadership, professionalism, and versatility, helping employees realise their selfworth. In 2022, the employee training coverage rate reached 100%.

Corresponding Chapter: Career Development

9 Industry, innovation and infrastructure

Driven by our professional R&D system and talent team, CanSinoBIO has been steadily promoting innovation in the vaccine industry, proactively assisting underdeveloped regions in establishing fundamental vaccine production facilities, with the aim of building immunity barriers for locals.

Corresponding Chapter: R&D and Innovation

10 Reduced inequalities

Together with multiple partners. CanSinoBIO is actively expanding the accessibility of vaccine products in underdeveloped countries. We contribute to ensuring global access to health care, respecting equality and human rights, and helping to reduce inequality.

Corresponding Chapter: Responsible Supply Chain

12 Responsible consumption and production

CanSinoBIO ensures the bottom line of vaccine quality and safety, strengthens guality management throughout the vaccine's full life cycle, and minimises safety risks.

Corresponding Chapter: Product Quality Pharmacovigilance

13 Climate action

CanSinoBIO strictly complies with all environmental management requirements in the countries and regions where it operates and continuously reduces the impact of operations on the environment. In 2022, we had no environmental emergencies or punishment for environmental violations and the GHG emission intensity declined by 35.19 percent compared to the previous year.

Corresponding Chapter: Environmental Management Resource Management

16 Peace, justice and strong institutions

CanSinoBIO has established a robust and responsible corporate governance system to strengthen compliance management and proactively promote the building of anti-corruption culture. In 2022, we reported no lawsuits or cases related to the violation of business ethics.

Corresponding Chapter: Corporate Governance Business Ethics

17 Partnerships for the goals

CanSinoBIO plays an active role in developing global public health security. By strengthening international technical cooperation and exchanges in vaccines, the Company is concerned about the needs of underdeveloped countries or regions for disease prevention to provide reliable immune protection for local populations.

Corresponding Chapter: Access to Health Care





Stakeholder Communication

CanSinoBIO believes that the Company's sustainable development relies on stakeholder engagement and participation, and we prioritise listening to the demands of stakeholders. Through various channels, we regularly engage with internal and external stakeholders, including employees, senior management, governments and regulators, shareholders and investors, customers and users, communities, suppliers and partners, the media and NGOs. Considering the Company's current development, future planning and changes in the external environment, we effectively identify ESG issues and integrate the demands of stakeholders into the Company's strategic planning and business layout.

Demands from Stakeholders and Our Responses

Stakeholders	Demands	Response from the Company
Government and regulators	 Compliance with laws and regulations Ensure product quality and safety Accept supervision from the government and promote the healthy development of the industry Pay taxes and contribute to the regional economy 	 Fulfill all obligations in accordance with laws and regulations Report operational performance as scheduled Continue to increase access to health care Promote the synergy of upstream and downstream companies in the industry Establish internal control mechanisms for compliance Promptly pay taxes
Shareholders and investors	 Know the Company's business performance and governance norms; ensure strict risk controls Conduct business steadily to maximise returns on investment Fair, impartial and open information disclosure 	 Disclosure of compliance information Investor communication through telephone, email and online conversations Annual General Meeting of shareholders Investor exchange meetings and on-site visits
A A A A A A A A A A A A A A A A A A A	 Protect employees' basic rights and interests Care about employees' physical and mental health and safety Provide training and career advancement for employees Generous benefit packages 	 Employee communication meeting Employee satisfaction survey Solicit opinions and feedback from employees Employee training Employee benefits
Customers and users	 Protect consumers' basic rights and interests Compliance with business ethics Ensure product safety and timely recall of faulty products 	 Strictly and fully follow the quality control of vaccines Protect customer information and optimise complaint mechanism Handle consumer complaints and opinions
Suppliers and partners	 Maintain good and stable partnerships Operate in good faith and ensure product compliance Sustainable supply chain 	 Regular communication Standardised management and enforcement of contracts and agreements Jointly fulfill social responsibilities
کرکی Media and NGOs	 Understand environmental pollution and emission reduction measures Timely and effectively reply to complaints Assume charitable responsibilities 	 Disclose data on environmental performance and set targets for environmental conservation Establish complaint channels on the official website and social media accounts Charitable activities
Communities	 Put emphasis on the impact of production and operation on the local communities Drive local economy and help vulnerable groups Recycle product packaging and waste to reduce environmental pollution 	 Engagement in charity Regular assistance in certain areas Volunteer services

CanSinoBIO regularly assesses and reviews ESG issues. We actively communicate with internal and external stakeholders to survey their opinions and analyse and update relevant issues. In 2022, CanSinoBIO's ESG materiality matrix was as follows:



Theme: Being Well-Organised to Provide the World with Innovative, High-Quality and Accessible Vaccines



As a global vaccine supplier based in China, CanSinoBIO upholds its original aspiration and mission while contributing to a health community with a shared future. We work together with global innovators to provide innovative, high-quality, and accessible vaccines to the world to curb infectious diseases with the most economical, effective, and high-quality vaccines, and safeguard human safety and health.

New Breakthroughs in Innovation

Although CanSinoBIO owns a number of core intellectual property rights and proprietary technologies for vaccines, the Company closely collaborates with external partners to expand R&D pipelines for different types of disease prevention. By leveraging our five core technology platforms, CanSinoBIO continuously improves our professional capabilities in vaccine development and conducts thorough innovative research on vaccines. Our advanced technology helps to find solutions to eroded vaccine protection caused by mutations of viruses, to boost immunity to diseases.

Ensure R&D

In 2009, CanSinoBIO was founded and registered in Tianjin, China. Over the past 14 years, we have been bravely pioneering and innovating in independent R&D of innovative vaccines. In 2017, our new drug application for Ad5-EBOV was approved in China. In 2021, our Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) Convidecia[®], Menphecia[®] and Menhycia[®], were approved for marketing. In 2022, the recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®], was approved to be included as a booster for emergency use in China.

The founder and core technical personnel of CanSinoBIO boast extensive experience in the biopharmaceutical industry, providing professional leadership in R&D and operations. A number of CanSinoBIO senior experts and innovative R&D scientists from the vaccine industry once worked for such well-known pharmaceutical companies as Sanofi Pasteur, AstraZeneca, and Wyeth. As of December 31, 2022, 58 percent of R&D personnel held a master's degree or higher, among which the number of R&D personnel with doctoral degrees increased by 53 percent year-on-year.





CanSinoBIO has continually been building up its capacity in R&D and innovation. Led by scientists and core technical personnel, the Company has established a sound vaccine R&D technology platform and system.

CanSinoBIO's Five Key Technology Platforms:



Based on our technology platform planning and global vaccine demand analysis, we summarise the medium and long-term direction for vaccine R&D and report the annual R&D plan for potential new product layout to the Board for review. CanSinoBIO has established partnerships with AstraZeneca, Vaccitech, Ocugen, BIRD-C and McMaster University. Meanwhile, the Company engages well-known experts at home and abroad to form a Scientific Consultation Commission that provides external support for the Company's product R&D. In 2022, the Company held regular meetings with the Scientific Consultation Commission, during which it shared our latest vaccine R&D and production, and discussed vaccine R&D progress and direction.

Expertise and Experience of Members of CanSinoBIO **Scientific Consultation Commission**



Public health, disease prevention and contro public policy, and government relations



CanSinoBIO Actively Laid Out an mRNA Technology Platform

CanSinoBIO has boosted its technological innovation capabilities and built an mRNA technology industrialized platform for mRNA vaccine R&D in Shanghai, bridging the gap in the vaccine level between China and the world.

The development of mRNA vaccines only requires the replacement of antigen sequences on mature technology platforms, which is greatly advantageous in sudden infectious diseases. We have been working on mRNA synthesis and delivery technology for years, and have developed and reserved patents, processes, and mRNA sequence design in terms of talent, platform, and industrialization. We have applied for multiple patents on mRNA vaccine design and new delivery system design. The mRNA technology platform built by CanSinoBIO has independently designed and developed sequence optimization and therefore it can produce key sites that affect stability and optimal sequences that effectively improve antigen expression.

On April 5, 2022, CanSinoBIO received the Clinical Trial Approval issued by NMPA; the clinical trial application for the Company's mRNA vaccine candidate for novel coronavirus was approved.

In January 2023, the Company's mRNA vaccine candidate for novel coronavirus achieved positive interim data in a clinical trial evaluating the safety and immunogenicity of the sequential boost immunization.

Product Development

Our product pipeline focuses on a wide range of global needs for vaccines, including the following three categories: (i) Globally innovative vaccines to serve unmet medical needs worldwide: (ii) First-in-class in China, domestic world-class vaccines with higher quality developed to replace the current primary vaccines in China; and (iii) Pre-clinical innovative vaccines. CanSinoBIO is developing 18 vaccine products for more than 10 disease areas, including meningitis, Ebola, DPT, pneumonia, tuberculosis, novel coronavirus (COVID-19), herpes zoster, and seven vaccine candidates in the phase of the clinical trial or clinical application. In the future, we will continue to deeply boost vaccine R&D, facilitate the development of all vaccine candidate projects, and establish new technology platforms based on future development trends and directions to expand R&D technological fields and expertise.

Globally innovative vaccines to serve unmet medical needs worldwide





* Bivalent COVID-19 vaccine for inhalation (adenovirus vector) and bivalent COVID-19 mRNA vaccine targeting the Omicron strain are at clinical trial stage.

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Progress of CanSinoBIO Vaccine Candidates

Innovative R&D of Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for Inhalation Convidecia Air[®]

Given the logic that COVID-19 invades the human body from respiratory mucosa, CanSinoBIO has developed the world's leading recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air®. The Company has made independent innovations in drug delivery equipment. It has adopted vibratory screens to atomize the vaccine into 3µm particles (Aerogen[®] provides vibratory screen technology). The vaccine aerosol particles are directly delivered to the target through inhalation, which stimulates the mucosal system to produce immunity.

CanSinoBIO is committed to extending vaccine protection to more people by ensuring the convenience and accessibility of vaccination with innovative products. The vaccination process of Convidecia Air® has unique advantages of safety, painlessness, convenience and availability and the vaccine can be stably stored and transported at the temperature of 2 to 8°C . Those advantages can significantly reduce the

management costs at vaccination sites, ease the burden in areas that lack medical resources and are ill-served by public transport and provide convenience for residents in remote areas. Convidecia Air[®] is especially suitable for border areas, ports, and populations engaged in highly risky work. Besides, it allows efficient large-scale deployment and improves vaccine accessibility.

The cost of a dose of Convidecia Air[®] is only one fifth the cost of an intramuscular injection. The delivery through inhalation can provide effective immunoprotection, and its method of vaccination is more acceptable to patients, without adverse reactions such as redness, swelling, and pain caused by intramuscular injection. It is more conveniently administered to the elderly, children, and people who suffer from needle and blood phobias.



CanSinoBIO is deeply engaged in innovative vaccine R&D and has made multiple significant breakthroughs in a number of theories research and technologies. The Company has published dozens of papers on clinical trials in international and domestic top medical journals including Nature, Lancet, Lancet Respiratory Diseases, Emerging Microbes & Infections, Chinese Journal of Vaccines and Immunization, and Chinese Journal of Preventive Medicine, demonstrating our findings and achievements in vaccine technology research.

Ride the Wave to Start a New Pattern

CanSinoBIO's innovative vaccines are the result of its advanced research capabilities and the philosophy of caring for human life and health. Our product pipelines cover multiple diseases area and continue to increase the coverage of innovative vaccines in China. We have helped reinforce the public's understanding of vaccination and disease prevention and continue to boost such fields in China.



As of the end of the reporting period, CanSinoBIO launched many products as follows:

Types of Diseases	Product Name	
Ebola Virus Disease	Ad5-EBOV	The replication-defective of technology are adopted, b lyophilization, which is hig with a broader range for s temperature of 2°C to 8 °C for about three weeks. This be transported and stored in the equatorial regions a been reported in recent year
onavirus	Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) Convidecia [®]	Formed with the genetic er was used as a vector to e preservatives, adjuvants, produce immune protect between the temperature stored, and improving vaco
Novel Coronavirus	Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for Inhalation Convidecia Air [®]	Based on the unique immu it can stimulate the body to mucosal immune pathway immunity, and cellular imm infecting the body from the safety, effectiveness, painle
	Groups A and C Meningococcal Polysaccharide Conjugate Vaccine (CRM197) Menphecia [®]	Using CRM197 as a carrie Relying on the polysaccha the deficiencies of polysacc and bringing stronger immu
Meningitis	Group ACYW135 Meningococcal Polysaccharide Conjugate Vaccine (CRM197) Menhycia [®]	As the world's third tetrava coccal group A, C, Y and first-in-class in China, Menl conjugate vaccine in China strategy for meningococcal aged 3 months. Based on o common pathogenic menin to the carrier protein CRM ⁴ tives are added such as phe and more environmentally f infants aged 3 months to 3

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Core Advantages

vectors and high-density serum-free suspension culture breaking the technical bottleneck of virus vector vaccine ighly safe. The Ad5-EBOV is a freeze-dried dosage form storage and transportation. It can be stably stored at the C for 12 months and maintained at the temperature of 37°C is makes the vaccine highly accessible as it is convenient to at higher temperatures when a stable cold chain is lacking and some African countries where Ebola outbreaks have ars

engineering methods, the replication-defective type 5 vector express the S antigen of novel coronavirus; it contains no or animal derived ingredients; a single dose can quickly tion and shorten the vaccination cycle. It can be kept of 2°C and 8°C, making it easier to be transported and ccine accessibility.

une pathway of the adenovirus vector technology platform, to generate immune responses and form protection through ys, simultaneously stimulating mucosal immunity, humoral nunity to some extent preventing respiratory diseases from he upper respiratory tract, and has unique advantages in lessness, convenience and accessibility.

ier protein, it improves the quality and safety of vaccines. naride-protein conjugate technology platform, it overcomes ccharide vaccines, further enhancing the immune response nune protection.

alent meningococcal conjugate vaccine covering meningo-W135, independently developed by the Company as the nhycia[®] is currently the most widely covered meningococcal a; it is expected to help upgrade the domestic immunization al meningitis vaccine by allowing first vaccination to infants our advanced technology platform, Menhycia[®] enables four ngococcal serogroups A, C, Y, and W135 covalently bound 1197, respectively. In the preparation process, no preservahenol, and no animal derived ingredients are used. It is safer friendly, bringing stronger and lasting immune protection to years old (47 months).

Product Assurance

CanSinoBIO provides a solid guarantee for disease control through comprehensive and competitive products. The Company is actively concerned about patients with rare diseases and strives to improve the accessibility of diagnosis and treatment for them through cooperation and other means. Meningococcal meningitis is an acute respiratory infectious disease caused by Neisseria meningitidis. It has high subclinical infection and mortality, high incidence among children under 5 years old, and serious sequelae. Up to now, vaccination has been the most effective means to prevent epidemic meningitis, while the conjugate vaccine is the preferred medicine to prevent this disease.

On November 7, 2022, CanSinoBIO signed a strategic cooperation agreement with AstraZeneca Investment (China) Co., Ltd. The two companies were collaborating on rare disease diagnosis and treatment with tetravalent meningococcal conjugate vaccines and complement inhibitors. The collaboration integrated CanSinoBIO's technology and development in meningococcal vaccines and AstraZeneca's advantages of resources in biopharmaceuticals, ecological innovation, and rare disease diagnosis and treatment. This cooperation not only enhances the significance of standardised treatment of approved rare diseases in China but also provides guarantee for the future complement inhibitor R&D pipeline. That move further improves the domestic rare disease diagnosis and treatment ecosystem and makes more contributions to the public health industry in China and beyond.



Signing Ceremony for Strategic Cooperation Between AstraZeneca and CanSinoBIO



Menhycia[®] Provided Comprehensive Protection for Chinese Children

Menhycia®, a tetravalent meningococcal conjugate vaccine independently developed by CanSinoBIO, has filled the gap in the protection of YW135 for infants and young children in China and opened a new pattern of prevention of infantile meningitis in China. The vaccine covers a wider range of age groups and serum groups, thus providing more comprehensive and high-quality protection for children aged 3 months to 3 years (47 months).

In July 2022, vaccination with Menhycia[®] has been initiated in several provinces. As of December 2022, the advanced tetravalent meningococcal conjugate vaccine Menhycia® was available in approximately 30 provinces, autonomous regions, and municipalities across the country. More Chinese children and families are being protected through innovative vaccine products from CanSinoBIO.



Vaccination with Menhycia® Has Been Initiated in Several Provinces

Based on vaccine protection, CanSinoBIO carries out targeted product information transmission and public vaccination science education for disease prevention to help raise public awareness and build an immunity barrier through vaccination. When Menhycia[®] was available for vaccination nationwide, CanSinoBIO invited more than 100 provincial and municipal disease control experts and well-known meningitis to give science education on epidemic disease prevention to the parents in attendance. The Company also published multiple popular science articles through our official WeChat account and other channels, further strengthening the knowledge popularization of hazards and vaccination of meningitis diseases.



Science Education for Disease Prevention

During the 2022 World Vaccine Congress in Washington, Dr. Xuefeng YU, Chairman and CEO of CanSinoBIO, delivered a speech entitled "Development of Ad5 virtual vector based aerosol COVID-19 vaccine." At the conference, Mr. YU shared the latest research result and potential advantages of the world's first COVID-19 vaccine for inhalation, providing innovative solutions for COVID-19 control.

Look Out for Each to Share a Common Destiny

Based in China, CanSinoBIO expands its presence around the world over the years with the mission of providing solutions for the prevention of infectious and contagious diseases. The Company fulfills social and international responsibilities with participation in international anti-epidemic cooperation. As a benefactor of China's contribution to global public health, CanSinoBIO has helped build a shared community of health for humanity, and bridge the immunity gap.

Through vaccine technology and innovative products, CanSinoBIO contributes to the improvement of global public health governance, especially the capacity-building of health governance in underdeveloped countries and regions. Currently, the Ad5-EBOV and TB Booster are important (candidate) products helping to address the unmet needs for disease prevention in underdeveloped countries and regions.

In 2022, CanSinoBIO strengthened exchanges and ties with international organizations to promote high-quality vaccines in China and provide life, health, and safety assurance for humanity. We communicate with more than eight international organizations, including the World Health Organization (WHO), the Global Alliance for Vaccines and Immunization (GAVI), the United Nations International Children's Emergency Fund (UNICEF). and the Pan American Health Organization (PAHO). Discussions are designed to better understand international disease prevention needs and trends, and explore the possibility of cooperation with those organizations

China's COVID-19 vaccine has been available across six continents, making China the largest supplier of vaccines to the whole world. Throughout Asia, Europe, South America and Africa, Chinese vaccines have protected the lives and health of hundreds of millions of people. Among them, the COVID-19 vaccine developed by CanSinoBIO is one of the powerful tools in the world's anti-pandemic efforts.



Convidecia® was Approved to be Included in World Health Organization's Emergency Use Listing

On May 19, 2022, the recombinant novel coronavirus vaccine (adenovirus type 5 vector) Convidecia®, was included on the World Health Organization Emergency Use Listing (EUL), becoming the third China-developed vaccine to be included in EUL. Convidecia® is the only Chinese COVID-19 vaccine with innovative technology routes on the list. The vaccine helped cope with the soaring number of COVID-19 cases around the world, insufficient supplies of vaccines, slow vaccination rates, and other problems, making China's COVID-19 vaccines as global public products contribute to vaccine accessibility and affordability in the rest of the world.



CanSinoBIO Carried out Strategic Cooperation on Vaccines with Multiple Countries on Behalf of China

Malaysia

On May 25, 2022, China and Malaysia initiated a new cooperation at the signing ceremony on the joint development of human vaccines. During the period, CanSinoBIO, the National Institute of Biotechnology of Malaysia (NIBM), and Solution Biotechnology, the Malaysian pharmaceutical company, signed cooperation agreements respectively on behalf of China and Malaysia. The three parties agreed to continue substantive cooperation on the development of selected human vaccines, the exchange of researchers and technical experts, technology transfer, advanced manufacturing, and the commercialization of vaccines in Malaysia and the international market.

Indonesia

In November 2022, CanSinoBIO was invited to the G20 Leaders' Summit as a representative of Chinese firms. At the meeting, CanSinoBIO and the Indonesian biopharmaceutical company Etana held the first "COVID-19 and tuberculosis mucosal immune protection forum and vaccine development cooperation ceremony" in Bali. CanSinoBIO will fully support Indonesia in building a regional vaccine manufacturing center, and will continue to drive the innovative vaccine cooperation process.

On the 13th of the same month, CanSinoBIO and the Indonesian biopharmaceutical firm Etana, signed a strategic cooperation agreement on innovative vaccine R&D on behalf of China and Indonesia in Bali to cooperate on inhaled vaccine technology and meningitis vaccine. With the support of the two countries, both sides will

fully leverage their advantages to boost the joint development and commercialization of innovative vaccine products and assist Indonesia in building a regional vaccine manufacturing center. CanSinoBIO will continue to explore and promote the application of inhalation vaccines in the tuberculosis in disease area and the innovation and breakthrough of meningitis vaccine, with the world's leading innovative vaccine technology, providing strong impetus for building the community with a shared future in China and Indonesia.



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CanSinoBIO and the Indonesian Biopharmaceutical Company Etana Signed a Strategic Cooperation Agreement on Innovative Vaccine R&D



• Pakistan

 Convidecia[®] obtained emergency use authorization and was produced locally

• Kyrgyzstan

Convidecia[®] obtained emergency use authorization

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• Malaysia

• On the basis of localized production, Convidecia[®] was used locally as a general-purpose booster; Convidecia Air[®] obtained a clinical trial permit in Malaysia, and CanSinoBIO carried out more in-depth vaccine cooperation with Malaysia on behalf of China

• Indonesia

 On behalf of China, CanSinoBIO signed a strategic cooperation agreement on innovative vaccine R&D with Etana, an Indonesian biopharmaceutical company. In March 2023, Convidecia Air[®] obtained an emergency use permit issued by BPOM

United Arab Emirates

• Convidecia[®] obtained emergency use authorization

2022 Highlights of ESG Performance

In 2022, while focusing on the R&D. production and operation of product, CanSinoBIO steadily progressed various ESG work with the aim of comprehensively promoting our sustainability strategy and creating long-term value for society.



Community









Donated more than RMB 1.31 million to charities



Focused on promoting products relating to meningitis and COVID-19 to meet the applicable needs of diverse populations



The recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®], obtained emergency use authorization in Morocco





Tetravalent meningococcal conjugate vaccine Menhycia[®] was administered across nearly 30 provinces, autonomous regions, and municipalities which are directly under the Central Government throughout the country

Operation

Through a scientific and evidence-based sound governance structure, CanSinoBIO practices high standards of business ethics, clinical trials, animal experiments, and information security management to fully implement responsible operations. At the same time, under the win-win cooperation concept, we integrate our operating principles and standards into supplier management to drive a responsible supply chain more thoroughly for a sustainable industry chain.



3 GOOD HEALTH AND WELL-BEING

Corporate Governance

CanSinoBIO optimises the corporate governance system, actively communicates with investors and improves the information disclosure mechanism. Under the leadership of the Party building, the Company has strengthened anti-corruption and integrity building, constantly striving to create better corporate governance practices.

Governance Structure

CanSinoBIO strictly complies with laws, regulations, and regulatory requirements such as the Company Law of the PRC, the Securities Law of the PRC, the Securities Listing Rules of the Stock Exchange of Hong Kong Limited, and the Stock Listing Rules of the Science and Technology Innovation Board of the Shanghai Stock Exchange. CanSinoBIO has formed a corporate governance structure and operating mechanism where shareholders' meetings, the Board, and the Board of Supervisors play key roles. The Company has established a scientific, efficient, stable and long-term decisionmaking and supervision mechanism to ensure a standardised operation and protect the interests of shareholders.

Corporate Governance Structure



The Company's controlling shareholders strictly regulate shareholder behavior, legally exercise shareholder rights, and support the Company's business development. The Company has an independent business, personnel, assets, institutions, and finance of controlling shareholders, who do not bypass shareholder meetings to intervene in the Company's decision-making and operating activities.



The Board also consists of an Audit Committee, a Remuneration and Assessment Committee, and a Nomination Committee. Each committee provides opinions and suggestions on major management topics, evaluates and improves various management systems and business operation processes, and supervises the implementation of resolutions to ensure the efficient operation of the Board. During the reporting period, the Board held eight meetings where all members were present.

Meetings of Audit Committees





The Board of CanSinoBIO consists of 12 directors¹, including five executive directors, three non-executive directors, and four independent non-executive directors, among which the number of independent non-executive directors accounts for one-third of the total directors. This composition can ensure mutual checks and balances to protect the interests of shareholders.

CanSinoBIO attaches great importance to board diversity and has formulated a "Board Member Diversity Policy". When nominating and appointing board members, the Company comprehensively considers important factors such as gender, age, candidate's professional qualifications, industry experience, as well as professional and educational background. As of the end of this reporting period, the Board of CanSinoBIO had three women directors and four directors with doctoral degrees. All of the directors have extensive industry experience and professional capabilities in various fields, such as business administration, biomedicine, economics and finance.

announcements and circulars



general meeting

As the highest authority of the Company, the general meeting is composed of all shareholders who have the right to appoint and dismiss directors, determine business policies and investment plans, and make decisions on major issues of the Company. We strictly regulate the procedures for convening and voting at general meetings, to ensure all shareholders, especially minority shareholders, have equal access to legitimate rights and interests in the decisionmaking process.

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The Company continues to reinforce the role of external directors as a think tank for supervision and decision-making, fully listening to outside directors' useful suggestions on industry development and risk control, effectively improving the scientific decision-making of the Board. We require the Board to hold at least four regular meetings every year. The Board consists of an Audit Committee, a Remuneration and Assessment Committee, and a Nomination Committee. Each committee conscientiously performs our duties in accordance with the rules of procedure and serves as decision-making aids.

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Supervisors and **Board of Supervisors**

The Board of Supervisors conscientiously performs its supervisory responsibilities, conducts compliant supervision on the Company's business development, related party transactions, management and use of raised funds, and promotes the Company's healthy, stable, and sustainable development.

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Board Composition

¹ For information about the members of the Board, please refer to the 2022 Annual Report.



Investor Relations

Since CanSinoBIO's listing, we have continuously cultivated good investor relations and strengthened communication with shareholders and potential investors. We have been committed to disclosing information truthfully, accurately, completely, timely, and effectively, and we actively stated our business philosophy, business results, and future strategic direction to investors through various channels such as investor communication platforms, general meetings, and performance briefings. We aim to reinforce investors' recognition of our value and create a sincere and trustworthy ecosystem for investor communications. In 2022, we participated in multiple investor exchange meetings and issued the Investor Relations Activity Record Form.

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Business Ethics

CanSinoBIO strictly abides by the business ethics of honesty, trustworthiness, integrity, and self-discipline, continuously strengthens the compliant operation management, improves the compliant operation level, maintains the bottom line of compliance value, and provides strong support for stable and long-term development.

Compliance Management

CanSinoBIO reinforces compliance management and strictly prevents operational and legal risks to comprehensively ensure stable operations. In 2022, the Company formulated and issued the CanSinoBIO Compliance Manual and a series of compliance management systems to accurately provide compliance guidance for various businesses, including the Personal Information Protection System for personal information protection, Business Partner Compliance Management System, Foreign Business Partner Compliance Management Procedures, and Channel Partner Compliance Management Rules for business partner compliance management, as well as Marketing Compliance Standards Manual and Publicity, Promotion, Non-Promotion, and Personal Comment Compliance Management System for marketing and promotion.

In order to fulfill compliance commitment, the Company has established a closed-loop compliance management system for the entire process and clarified the organizational structure of compliance management. The Risk and Internal Control Management Committee, as the top internal management and decision-making body for compliance manage-



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ment, is responsible for planning, leading, supervising, and evaluating the Company's compliance management work. The Legal and Compliance Department is responsible for organizing, coordinating, promoting, and executing specific compliance management work. Additionally, the heads of each department or center are the first responsible persons for their own compliance management, ensuring the effective implementation of their own compliance management work, and communicating, transmitting, and reporting relevant information in a timely manner.

In addition, we have established a compliance Business Partner (BP) working mechanism to conduct business sorting, system process upgrading and optimization work for key sectors. This allows us to promptly identify, prevent, rectify, and follow up on compliance risks and potential compliance issues that arise during business operations. The Legal and Compliance Department regularly reports the work progress and strategic plan to the Company's Risk and Internal Control Management Committee, which reviews and approves the plan before implementation. During the reporting period, CanSinoBIO did not have any violations.

Risk and Internal Control Management Committee

Plan, lead, supervise, and evaluate the Compan's compliance management affairs as the top internal management and decision-making body for com-

Legal and Compliance Department

Organise, coordinate, promote and execute specific compliance management affairs

Ensure the effective implementation of compliance management, and timely communicate, transfer, and report relevant information, as the first person primarily responsible for the management



Culture of Compliance

CanSinoBIO significantly promotes a culture of compliance and executes compliance requirements. The Company has made compliance management a compulsory course for employees, designed multiple practical training courses on targeted fields, and regarded compliance training participation as one of the performance evaluation indicators for employees. In addition, we have participated in several external training sessions on business ethics and compliance management and set up open, transparent, and unimpeded reporting channels to reinforce the culture of compliance and integrity.

CanSinoBIO firmly upholds zero tolerance towards all violations of business ethics and regards it as a longterm principle and a necessary bottom line that must be maintained in enterprise development. On the basis of strict adherence to laws and regulations such as the Company Law of the PRC, the Anti-Monopoly Law of the PRC, the Anti-Money Laundering Law of the PRC, and the Anti-Unfair Competition Law of the PRC. we comprehensively practice the decision and deployment of the Party Central Committee to comprehensively and strictly govern the Party. We enforce the Constitution of the CPC, Guidelines for Political Life inside the Party in the New Era, the CPC's Code of Integrity and Self Discipline, and other laws and regulations within the Party. As such, we deepen the development of integrity and clean government, continue to uphold integrity, enforce discipline and combat corruption, while severely punishing all violations of laws and regulations.



In 2022, the participation rate of anticorruption training for members of the Board at CanSinoBIO was

100%

Anti-corruption training on average



Activities in the Month of Compliance Promotion

In 2022, CanSinoBIO launched the "Month of Compliance Promotion". During this period, 7 sessions of online and offline activities were held, 19 articles were posted, 10 sessions of special training were offered, and knowledge competitions were conducted. The Company raised employees' compliance awareness, promoted the culture of compliance, and built compliance values through promotional videos, posters and compliance promotional materials.



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In 2022, CanSinoBIO reported **NO** lawsuits or cases related to corruption, violation of business ethics, or unfair competition.

The Company has continuously improved anti-corruption and anti-bribery documents by formulating rules and regulations such as *CanSinoBIO Compliance Handbook*, *Anti-Corruption and Anti-Fraud Management System*, and *Employee Receiving Gift Management Process*, which continuously enhanced daily supervision. In 2022, the Company strengthened supervision, inspection, and risk control in areas prone to corruption, in order to supervise and ensure the effective implementation of anti-corruption and business ethics policies and regulations. This was done through compliance BP and audits, and by regularly conducting special inspections and audits on the implementation of the system. The Company formed a unified and coordinated anti-corruption layout with respective responsibilities.

CanSinoBIO attaches importance to the comprehensive prevention of business ethics risks. At the employee level, we require employees to sign and abide by our letter of commitment to business ethics. At the supplier level, we also demand suppliers to sign *Supplier Integrity Agreement* and *Confidentiality Agreement* to build an honest supply chain. In 2022, all new employees have signed relevant letters of commitment to business ethics and all suppliers have signed integrity agreements.

CanSinoBIO enhances employees' anti-corruption awareness to further build a culture of integrity through diverse training and activities. We provide anticorruption, anti-bribery, and anti-fraud training for directors, supervisors, senior management, and all other employees at least once a year.



All new employees have signed relevant letters commitment to business ethics and all suppliers have signed integrity agreements



2022 Medical Industry Compliance Conference

In August 2022, personnel from the Legal and Compliance Department of CanSinoBIO participated in the 2022 Medical Industry Compliance Conference. During the meeting, law enforcement officials from the Administration for Market Supervision and lawyers introduced the latest trends and key points of law enforcement in commercial bribery in the pharmaceutical industry, the policy environment and law enforcement trends in anti-corruption and fraud prevention in the medicine field, medical data outbound, pharmaceutical industry compliance under the new antitrust law, and medical marketing expense fraud risk management and other professional knowledge. This meeting effectively raised employees' awareness of risks, integrity, and self-discipline, and built a strong ideological line against corruption.



Medical industry compliance meeting

CanSinoBIO has established an open, transparent, and unimpeded reporting channel to encourage all stakeholders to report possible misconduct that they are aware of. We have set up a whistleblower protection mechanism that strictly keeps whistleblowers and information confidential to avoid any form of retaliation. Further, in accordance with the *Reward Process for Non-compliance Reporting* and *Non-compliance Complaint and Reporting Internal Investigation Procedures*, we promptly handle complaints and hold violators accountable.

	Main reporting channels:				
ę	Reporting hotline: 022-58213600-6218				
	Reporting website: complaince@cansinotech.com				
Å	Mailing Address: Rongsheng Building, 185 South Street, West District, Tianjin Economic and Technological Development Zone				
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Clinical Trial Ethics

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 CanSinoBIO puts emphasis on the ethics of clinical trials and the protection of the rights and safety of human subjects throughout each clinical trial. We fully respect and protect the legitimate rights and interests of all human subjects, actively enhance research on medical ethics, and promote social progress.

CanSinoBIO ensures that all clinical trials comply with the *Good Clinical Practice for Drug Trials (GCP)*, and the principles stipulated in the World Medical Association's *Declaration of Helsinki*, as well as the related ethical requirements. The Company always highlights the rights and safety of human subjects, and under this premise, we also propose clinical trial protocols in combination with the scientific validation results of clinical trials and the potential social impact. All protocols are submitted to the Ethics Committee for review prior to the initiation of the corresponding clinical trials, which can only be conducted upon approval.

CanSinoBIO attaches great importance to the protection of the rights and safety of all human subjects and ensures clinical trials conform to ethical principles. The Company purchases corresponding insurance prior to each clinical trial, without charging any fee from human subjects, and provides appropriate compensation to human subjects. CanSinoBIO respects and protects the rights of human subjects to decide whether to participate in any research. The Company strictly follows all procedures for informed consent. Prior to a clinical trial, the Company conducted a informed consent session to fully inform the human subjects of the conditions, benefits, risks, compensation and individual rights in the trials. After the session, we will sign a form of informed consent approved by the Ethics Committee with each participant and answer questions raised by the participants. We also establish a green channel for medical treatment of serious adverse events (SAEs) to protect the safety and health of human subjects to the greatest extent.

To protect the privacy of human subjects, CanSinoBIO strictly observes local laws, regulations and ethical standards relating to privacy protection in clinical trials during the collection and processing of personal data of human subjects, to prevent the loss, theft, alteration, or tampering of such data. In clinical trials, CanSinoBIO uses codes to identify human subjects, protect their privacy, and prevent personal information and data from being leaked.

Form of Informed Consent

The form of informed consent covers such content as the research background, research objective, trial process, matters requiring cooperation from human subjects, potential risks, risk response measures, limited confidentiality of personal data, and the principle of voluntary participation. The consent form also clarifies the rights of human subjects not to be discriminated against or face retaliation for withdrawing from the research at any phase and assures them that their medical treatment and rights will not be affected.



Animal Experiment Ethics

The ethical use of animals in the laboratory is at the core of our experimental ethics, which emphasises the welfare and respect for the life of laboratory animals for human health research. Experiments in laboratory animals are conducted in strict accordance with Laboratory Animal - Requirements of Environment and Housing Facilities (GB 14925-2010). CanSinoBIO has established multiple operating procedures, including the Standard Operating Procedures for Health Observation of Laboratory Animals, Standard Operating Procedures for Environmental Management of Animal Quarters, and Standard Operating Procedures for Quarantine of Laboratory Animals. These regulations standardise animal experiments from multiple aspects, including animal house facility management, disinfectants, laboratory animal purchase, animal acceptance, animal reception, animal use, animal feeding, blood collecting, health observation, and corpse disposal to ensure the welfare ethics of laboratory animals.

We have set up an Ethics Committee for Laboratory Animals, and perform the annual inspection of animal quarters as required by the Tianjin Science and Technology Commission to ensure a sound environment for laboratory animals and lift up the accuracy and reliability of experimental studies.



License for the Use of Laboratory Animals



Information Security

CanSinoBIO attaches great importance to data privacy and information security, clarifies the working mechanism and requirements of information security management, and ensures the legitimate and compliant use of data. The Company has established a governance structure led by the Information Security Committee, which regularly conducts special audits of internal information security systems and effectively controls information security and data privacy leaking risks to ensure the stable operation of information systems and the security of user information and data.

The Company adheres to legal regulations and values of privacy protection and strictly abides by the latest laws and regulations such as the Network Security Law of the PRC and Data Security Law of the PRC. In 2022, we formulated standardised management documents such as Information Security Management Regulations, Information Data Security Management System, and Data Security Management Regulations. We established a data lifecycle security management mechanism, standardised data security classification management, and built an allround information security systems defense line from risk assessment, system operation, monitoring and auditing. and ability-based awareness training. Meanwhile, the Company attaches great importance to the development and maintenance of internal information systems. In 2022, the Information System Management Department launched a warehouse management system (WMS), laboratory information management system (LIMS), system applications and products (SAP) system, and manufacturing execution system (MES). The Company also passed the three-level information system security certification of China in the same year, signaling our own efforts and compliance with national best operating practices, and well-practiced security management system to customers, suppliers, and stakeholders.



CanSinoBIO fully respects and protects the right of users and patients to know, select and control their personal information. We legally and reasonably collect data while ensuring their knowledge and authorization. During data usage, data access and use are recorded and kept, data access and accounts are allocated with the principle of "minimum authorization", and database permissions are strictly controlled to ensure data operation and maintenance security; sensitive data are shielded or desensitised to strictly prevent data leakage. When data are stored longer than the specified storage period, the Company will regularly clean up, delete, and destroy it. During the reporting period, the Company reported no cases related to customer privacy security or leak of information.

In order to strengthen employees' awareness of information security protection, in addition to covering those topics in employee compliance training, we also regularly conduct special training sessions for all employees. In 2022, we organised and conducted training on cybersecurity awareness, 98% of employees scored 80 points or above in the post-course test. Also, we conduct email phishing testing to help employees fully understand and consolidate the specific practices of information security protection in business operations.



Training on Cybersecurity Awareness

Responsible Supply Chain

CanSinoBIO regards responsible supply chain as an important component of product R&D and commercial production. The Company continuously standardises the full process management and supervision mechanism, creates a sustainable supply model with a commitment, and commits to ensuring the stable supply of products.



We comply with laws, regulations, and industry rules such as the Civil Code of the PRC, and the Bidding Law of the PRC. and continue to promote a full process supplier management system that includes entry, evaluation, and withdrawal. We focus on potential risks at all stages and support supplier responsibility management through systems such as the Supply Chain Management Procedures, and the Supplier Management Handbook. In 2022, CanSinoBIO revised and issued the Material Supplier Management Procedure, clarifying the management processes of supplier selection, classification, evaluation, audit, approval, and withdrawal, etc., to help ensure product quality.

Supplier Entry, Evaluation, and Withdrawal

CanSinoBIO develops suppliers according to the annual development plan and temporary needs. During supplier entry stage, the Company collects basic suppliers information such as certificates, company profiles, and business licenses, and reviews their business reputation, operating licenses, and management system certification, etc. For new suppliers, we organise relevant departments to take necessary field visits and comprehensively evaluate and select qualified suppliers to ensure that their level of supply, material quality, and service capabilities meet our requirements.



² In 2022, CanSinoBIO modified the statistical dimension of supplier to exclude some non procurement partners, resulting in a slight decrease in supplier indicator data compared to 2021.

Number of CanSinoBIO Suppliers in 2022² Suppliers from the Chinese mainland Suppliers from Hong Kong, Macao and Taiwan 10

Overseas suppliers

62

Supplier Management System Certification



By the end of the reporting period, the number of suppliers that have obtained the quality management system certification (such as ISO 9001 certification, etc.)

150

55

We implement annual audit plans for suppliers after concluding a partnership with suppliers. The Company conducts a preliminary evaluation of the guality and timely delivery rate based on abnormalities and complaints, and organises personnel from relevant departments responsible for procurement, quality control, and legal compliance to audit suppliers on site, in combination with the audit plan. In case of suppliers' failure to arrive at the site due to force majeure factors such as epidemics, we require them to provide a third-party audit report.

We promote focused evaluations for different types of suppliers, and evaluate quality, price, environmental health and safety (EHS), timely delivery rate, and other indicators with reference to the Supplier Performance and Grading Evaluation Approval Form. The audit results are presented on a 100-point scale. Suppliers that score less than 60 points or cause serious accidents are regarded as ungualified suppliers (Level E), and will be disgualified from procurement; suppliers that score more than 60 points are classified as qualified suppliers (Level A, Level B, Level C, and Level D), and we will develop varying degrees of follow-up cooperation strategies based on their levels. For suppliers that have not engaged in procurement cooperation for more than one year, CanSinoBIO's Procurement Department has the right to remove them from qualified suppliers.

In 2022, CanSinoBIO had 242 key suppliers³, our Procurement Department conducted the annual evaluation of 242 key suppliers, which accounted for 100% of key suppliers. Among them, 240 suppliers were qualified according to the annual evaluation.



respective categories.



By the end of the reporting period, the number of suppliers that have obtained the environmental management system certification (such as ISO 14001 certification, ISO 14064 certification, etc.)



By the end of the reporting period, the number of suppliers that have obtained the health and safety management system certification (such as ISO 45001 certification, etc.)



³ Key suppliers refer to suppliers whose annual procurement amount accounts for the top 80% of the total procurement amount of materials in their



Couppy chain risk response inExample 1Guarantee of
inventoryDevelop inventory material quality com
release plans according to identified in
status.For the
CompanyMaterial
replacementSet up a mechanism for early warni
procurement in accordance with the S
development and replacement of out-ofImage: State 1Relationship
maintenanceMaintain a stable partnership through
procurement agreements.Image: State 1AgreementImprove the speed of procurement
framework agreements with suppliers.

Supply Chain Risk Management

After identifying and evaluating potential risks in the supply chain, CanSinoBIO develops scientific and reasonable response measures to comprehensively ensure the safety of the supply chain. We have joined the Supply Chain Branch of the China Association for Vaccines, and actively communicated with biopharmaceutical peers, upstream and downstream enterprises in the industry chain, also shared the management experience of CanSinoBIO while learning from advanced practices in supply chain risk management.

In terms of risk identification, we have formulated rules and regulations such as the *Supplier Management Handbook* which stipulates that suppliers should inform us in advance of potential risks such as product discontinuation, raw material changes, and interrupted supply of raw materials. With respect to risk assessment and response, our risk assessment team calculates whether the inventory is enough on a weekly basis, and conducts supply chain risk assessments based on the necessity of materials for production and the possibility of delayed supply. We focus on tracking high-risk and medium-risk materials and communicate with suppliers in a timely manner to address potential issues such as insufficient supply identified during the tracking process. We also maintain the arrival tracking frequency of low-risk materials for daily reserves, ultimately ensuring all levels of risk are controllable and providing a solid guarantee for a stable supply chain.

Facing the risk of untimely supply caused by the urgent extension of the delivery date of imported materials, CanSinoBIO actively carries out localized procurement by procuring locally-made materials to replace imported risky materials and maintain a stable supply. We comprehensively identify the supply risks of imported materials based on historical deliveries and inventory reserves, and comprehensively evaluate local suppliers in terms of technology, business, capacity, and accessibility. We identify qualified suppliers and promote the substitution of risky materials with local materials. In 2022, we signed a total of 136 framework agreements on localised procurement, helping to improve procurement efficiency and reduce supply chain risks caused by discontinued material supply.

We have joined

the Supply Chain Branch of the China Association for Vaccines In 2022, we signed a total of

136 framework agreements on localised procurement

Supply Chain Stability

CanSinoBIO and suppliers have established multiple communication channels such as email, phone calls, teleconferencing, and faceto-face meetings to jointly create a responsible supply chain with openly shared information. We update the material procurement plan based on actual needs and timely coordinate with suppliers for material returns, replacements or delayed arrivals. We arrange timely meetings with suppliers that are short of supplies and negotiate solutions to ensure optimal material storage and stable supply.

To match the capabilities of suppliers with the needs of the Company, CanSinoBIO actively organises supplier training and communication activities and conducts technical training on system operation, business processes, and other aspects to enhance supplier capacity in terms of supplier registration, process management, and qualification updates. In 2022, CanSinoBIO conducted offline training for suppliers in the system and provided online training videos and courseware to all suppliers. The coverage rate of suppliers in online and offline training activities was 100%.

2022 Supply Chain Risk Response Measures

Develop inventory material quality control release plans and incoming material demand release plans according to identified material usage times and material quality control

Set up a mechanism for early warning of minimum inventory, and conduct urgent procurement in accordance with the *Supplier Management Procedure* to ensure timely development and replacement of out-of-stock materials and much-needed materials.

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Maintain a stable partnership through strategic cooperation with suppliers and signing procurement agreements.

Improve the speed of procurement and ensure supply capacity through signing framework agreements with suppliers.



(-œ́)-, **Sustainable Supply Chain**

CanSinoBIO actively improves the sustainable supply chain characterized by maintaining the ecological environment and assuming social responsibility. The Company also sets defined requirements for suppliers on environment, human rights, business ethics, health and safety, and develops systems such as Integrity Agreement, Confidentiality Agreement, Supplier Code of Conduct, and requires suppliers to sign those agreements to build a more comprehensive supply chain management system. Among them, the Integrity Agreement explicitly prohibits all suppliers from engaging in any form of commercial bribery. In 2022, 100% of important business suppliers signed the Integrity Agreement, and none of the suppliers had any litigation cases involving corruption or unfair competition.

In 2022. 100%

> of important business suppliers signed the Integrity Agreement

None

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of the suppliers had any litigation cases involving corruption or unfair competition In terms of occupational health and safety, we regularly carry out training courses for suppliers, conduct overall entry construction safety training including safety knowledge and awareness, personal protective equipment, emergency response, isolation of certain areas, to ensure the safety of personnel at work and the sustainable operation of the supply chain. In 2022, we conducted a total of 172 safety and occupational health training activities for all construction related suppliers, with a coverage rate of 100%. A total of 963 people were trained, with operators trained twice a week.

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Safety and Occupational Health Training for Construction Contractors

In 2022, CanSinoBIO conducted long-term entry safety training for construction contractors. Before their operation, we clarified the applicable safety and occupational health standards and provided safety instructions on the use of 21 types of equipment and tools such as electric welding machines and gas cylinders. The Company also conducted comprehensive safety education about safety discipline, typical accident hazards, and wearing of protective equipment. We effectively reduced potential safety hazards through training and prevention in advance.

Supplier ESG Management Strategy

Environmental protection

- Ensure that suppliers comply with environmental regulations in their operations and have necessary environmental permits;
- Require suppliers to manage production processes that may cause environmental pollution, reasonably store hazardous materials and wastes, and reduce adverse impacts on natural resources.

Business ethics

 Require suppliers to sign Integrity Agreement to prohibit improper benefits and avoid corruption in cooperation;

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- Require suppliers to strictly abide by the Confidentiality Agreement and strictly keep confidential the Company's technical data, intellectual property, and other information;
- · Require suppliers to establish a fair operation and business environment and prohibit unfair competition.

Human rights and equality

- · Require suppliers to comply with laws and regulations on harassment and abuse, freedom to complaint;
- Require suppliers to respect the legitimate rights for collective bargaining and take confidential measures for employee complaints;
- Prohibit any corporal punishment, sexual harassment, slavery, forced child labor, coercion and other inhumane behavior within the supplier;
- · Prohibit suppliers to discriminate against employees based on race, gender, age, religion, sexual orientation, and other factors unrelated to their work capacity.

Employee benefits

- all statutory benefits for employees;
- · Require suppliers to offer statutory holidays and paid holidays;
- · Prohibit suppliers from forced overtime work, limit employees' overtime work, and reasonable pay for overtime work.



On-Site Entry Safety Training



Products

In line with the vision of "Innovation for a Safer World", CanSinoBIO has established a management system covering the full lifecycle of products to control quality throughout the industry value chains. We focus on the development and innovation of vaccines and are committed to providing high-quality accessible products and services to customers. Empowering global customers with better service levels, we aspire to make contributions to maintaining global public health and jointly building a human immune barrier.

3 GOOD HEALTH AND WELL-BEING







Product Quality

Quality control is the top priority for the safety and efficacy of vaccines. The Company continuously upgrades the quality management system, controls the quality inspecting process, and comprehensively conducts internal and external audits of product quality. While shoring up the full-process quality management, we promote the formation of a culture of quality and transmit the concept and professional knowledge of quality management among the employees, to ensure greater public health in society.

Quality Management System (•@)•

CanSinoBIO rigorously adheres to vaccine quality and safety bottom-line and strictly controls product quality, to ensure product safety. We comply with the 2020 Edition of the Pharmacopoeia of the PRC, the European Pharmacopoeia (10.0 Edition) and other national pharmacopoeias, the Good Manufacture Practice (GMP), WHO Good Manufacturing Practices for Pharmaceutical Products, and FDA⁴ and ICH⁵ guidelines, along following all relevant laws and regulations. The company has developed Quality Manual and updates monthly with revised information on laws and regulations in the vaccine industry.

In 2022, we fully upgraded the vaccine production quality management system covering product design and development, production control and product release to build an institutionalized, procedural and data-based product quality management. We also prepared the corresponding product quality standards for specific products based on their features. Those standards include the Quality Standard of Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector), Quality Standard of Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for Inhalation, Group A and C Meningococcal Polysaccharide Conjugate Vaccines (CRM 197) and Group ACYW135 Meningococcal Polysaccharide Conjugate Vaccines (CRM 197).

In order to better prevent potential product safety and quality issues, CanSinoBIO performs full process quality inspection on all batches of products and adds internal items of quality control inspection to key processes. CanSinoBIO also conducts quality inspection for full process of quality management, including the inspection of raw materials and excipients at the early stage, product inspection at the intermediate stage, the inspection of packaging material and quality inspection at the later stage as well as the inspection of product release during the full process quality management process. The Company also carries out real-time trend analysis and product testing data monitoring to prevent potential product safety and quality issues.

In order to effectively operate the quality system, we regularly conduct internal and external audits in all business lines. The audits include GMP compliance inspection by local drug administration, audits by WHO and GMP, vaccine inspections by drug administration, and audits by the partners during domestic and international business transactions and cooperation. In 2022, the Company carried out four specific internal inspections, covering all GMP-related departments, which completed preventive inspection of potential safety issues and implemented rectifications. We also accepted four audits by the domestic drug administration, in which no serious deficiencies were found; and all rectification was completed on time.



⁴ The Food and Drug Administration.

⁵ The International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use.

Quality System of Clinical Operation

In 2022, the Company fully upgraded its quality system of clinical operation and updated the full process involving medical writing, data management, statistical analysis, monitoring, auditing, and clinical pharmacovigilance. The Compay also focused on protecting human subjects, ensuring the quality of clinical operations, and complying with the relevant laws and regulations. We strictly comply with domestic and international regulations on clinical trials, including Good Clinical Practice for Drug Trials (GCP), ICH-GCP and other ICH guidelines. the Guidelines for Quality Control of Vaccine Clinical Trials (Tentative), the Guiding Principles for the Adaptive Design of Drug Clinical Trials (Tentative), and the Specification for the Management of Safety Update Reports during Research and Development (Tentative). Based on the sound clinical operation quality system, we have conducted clinical studies related to the adenovirus vector-based COVID-19 vaccines in Jiangsu, Zhejiang, Hunan, Yunnan, Chongqing, Anhui, Shandong and Malavsia,

To ensure that all trials are up to domestic and international standards, we conducted risk-based audits and supplier reviews, and actively accepted national and local inspections including those from the Center for Food and Drug Inspection of the NMPA and other agencies.

We conducted systematic and independent inspections of clinical trial-related activities and documents to assess and determine whether the clinical trials conformed to the trial protocols, the standard procedures and the relevant laws and regulations.

In China, we conducted independent or third-party audits for a number of clinical trials; while in overseas countries, we appointed staff to inspect clinical trials through field trips in Malaysia, Mexico, Chile, and other countries. All those efforts aimed to minimise the compliance of clinical trials and the authenticity of recorded data.



During the reporting period,

CanSinoBIO has accepted external verification twice and carried out internal inspection and audit more than 11 times, ensuring all clinical trials meet the regulatory requirements;

There were no lawsuits related to clinical trials.

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Clinical Project in Malaysia

After comparing the registration and application data with the original clinical trial records and documents, we comprehensively verified the authenticity and consistency of the related data.

We underwent the on-site verification of clinical trials for registration organised by the Center for Food and Drug Inspection of the NMPA in Jiangsu Province and Tianjin, respectively, and comprehensively verified the authenticity and consistency of the relevant application data; meanwhile, we focused on protecting human subjects. We fully inspected the implementation of trial protocols, experimental vaccine management, and cases in clinical endpoints online and offline.

Full Process Management

CanSinoBIO implants quality management in all processes of production and operation to fully guarantee vaccine quality through material quality management, laboratory management, technical feasibility assessment, production process control, distribution and storage management, lot release management, product release and overall deviation handling.

Full Process Management of Product Quality



- Establish a distribution guality management system, to improve the quality management procedures involving initial orders from customers, vaccine warehousing and transportation, cold chain verification and complaints;
- Establish and connect consigned storage sub-warehouses in Zhejiang, Guangdong, Fujian, Chongqing and other regions, and work with mainline transporters to enhance distribution capacities and increase distribution efficiency;
- Carry out domestic and international transport validation related to cells, toxic strains, stock solutions and finished products;
- Conduct regular quality audits of logistics service providers, sign the List of Qualified Logistics Service Providers after qualified audit, and carry out relevant business after suppliers are filed and published in the National Medical Products Administration.

- Submit the lot release application to the China Institute for Food and Drug Control after the first stage of release of each batch of products;
- The Provincial Drug Administration is responsible for sampling, places the sealed sample in a validated and qualified refrigerated container, and sends the samples and product information to the designated testing agency for acceptance and testing;
- The products may only be marketed upon the second stage of release after being confirmed to be qualified
- In 2022, the one-time lot release acceptance rates of Menphecia[®] and Menhycia[®] reached 100%, without any abnormalities.

- release of finished products after selfinspection, and commercial release of finished products after passing the inspection of the national statutory drug inspection authority, with a focus on environmental monitoring results, batch manufacturing records, batch inspection records, deviation closure, and release status of materials;
- Develop procedures for the release of raw and auxiliary materials and packaging materials, inspect raw materials, excipients, and packaging materials in direct contact with pharmaceutical products, and issue the inspection report; release the qualified materials for traceability.

⁸ AD: Atypical Data.

OOT: Out of Trend

causes.

In order to avoid the impact of deviations identified during production and operation, and correctly implement production processes, quality standards, inspection methods and operating procedures, the Company takes certain measures to record the deviations and prevent their occurrence. In 2022, CanSinoBIO continued to optimise the Deviation Management Regulations and the Change Management Regulations, and added the provisions for the responsibility matrix of deviation approval and the check of change validity on the basis of standardization of deviation investigation, identification, assessment, classification, cause analysis, development of corrective and preventive measures, and deviation closure. The Company also regularly reviewed the implementation of deviations. In the event of any product deviation, the Company takes actions such as emergency handling, deviation investigation, deviation assessment, product disposal, and corrective prevention in accordance with the processes, and stops the production or release of the batches that may affect product quality.

For atypical data (AD) events or Out of Specification (OOS) and Out of Trend (OOT) events, the Company has prepared the Management Procedures for $OOS^{6}/OOT^{7}/AD^{8}$, clarifying the process of handling atypical events, and truly recording the occurrence and handling of unanticipated events in the research

In the event of abnormal data in the laboratory, the experimenter shall report it to the department head and Out of Specification (OOS) administrator within 24 hours and leave the site as it is;

The head of departments should identify the category and treatment process of AD, to determine whether it is a laboratory error through a series of steps such as basic investigations and hypotheses experiments;

If it is caused by laboratory error or product quality rather than human error, the Quality Center must conduct follow-up investigations over relevant production and warehouse;

The Quality Center shall conduct an overall review of all incidents every year, follow up on the investigation progress, and classify the root

Processing Flow of AD or OOS and OOT Events

⁶ OOS: Out of Specification.

Culture of Quality

CanSinoBIO carries out diversified training programs for all employees of the Quality Center on a regular basis every year. Among them, trainings focusing on pharmacopoeia, safety, management procedures, and experimental skills are listed as the regular trainings each year. The Company's training system consists of pre-employment training, induction training and extended training. The extended training mainly involves continuing education training, document revision training, online video classes and external training by experts from other enterprises. CanSinoBIO has established a GMP training system and organised online training through the E-learning platform, so as to continuously improve the employees' understanding and awareness of the vaccine technology platform, guality system, WHO/PICs9/EU GMP guidelines and regulatory requirements.

We regularly check the effect of staff training through the form of operational assessment, and provide relevant feedback. In 2022, the Company launched a training plan for Subject Matter Experts (SME), identified the list of the first batch of SMEs and the training orientation to further enhance the professional knowledge and skills of SMEs, and improve the construction of quality culture.

In 2022. CanSinoBIO organised 125 times internal training on product quality assurance, with quality personnel covered;

The Quality Compliance Department organised and coordinated all departments under the GMP system to complete the internal training, and

collated over 3 training files.



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The Company has prepared 31 pharmacovigilance management systems including the Constitution of the Pharmacovigilance Committee and the Pharmacovigilance Management System, and added 14 new operational protocols for pharmacovigilance during clinical trials including the Regulation for Pharmacovigilance Management during Clinical Trials. The Company has also established a pharmacovigilance quality system in terms of an individual case safety report (ICSR), bibliographic retrieval, signal detection, risk management, and timeliness of completion of drug annual reports, to guarantee the regularity and efficiency of pharmacovigilance.

The Company has established a Pharmacovigilance Committee which is responsible for regularly assessing product safety risks, performing risk assessments, emergency vaccine incident response and handling other important matters related to pharmacovigilance. The Committee regularly convenes online and offline meetings. Besides, we have also established an Emergency Security Incident Working Group, which immediately reports the suspected major safety incident to the Head of Pharmacovigilance and organises an emergency meeting of the Working Group to investigate and analyse the incident from the perspectives of distribution, storage and transportation, production quality, public opinion and medical treatment, and report the results to the regulatory authorities, so as to minimise the drug safety risks.

The Company has developed the Monitoring System for Suspected Abnormal Reactions to Vaccination. The system clarifies and improves the processes of information collection, evaluation, follow-up investigation, reporting and subsequent resolution of safety incidents in a bid to identify, investigate and deal with potential product safety issues earlier during production, distribution and marketing. We require all employees to fulfill their responsibilities as the first recipient of complaints and incidents and assist the pharmacovigilance personnel in the collection, recording and internal reporting of safety information, thus ensuring that all safety incidents are effectively prevented and appropriately handled. The Company launched a pharmacovigilance information system with data security and confidentiality functions in 2022, which can ensure the traceability and auditability of electronic data, and comprehensively control potential safety risks of medicines through signal detection, risk management, signing of a pharmacovigilance agreement, and the organization of training.

Vaccine-Related CMC and GMP Training

In 2022, the Company, in accordance with the special requirements of vaccine enterprises, conducted the training -Vaccine CMC and GMP: WHO Expert's Explanation, Findings and Recommendations for Chinese Enterprises. The training further enhanced the employees' understanding of the vaccine technology platform, national regulatory requirements and the internal quality system of the Company, while enriching their skills and knowledge, and improving their compliance awareness and professional capabilities.



⁹ Pharmaceutical Inspection Co-operation Scheme, an international cooperation organization consisting of GMP inspection agencies in various countries.

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CanSinoBIO has established a pharmacovigilance management system covering lifecycle of products, in accordance with the latest laws, regulations and standards at home and abroad such as the Law of the PRC on Pharmaceutical Administration, the Law of the PRC on Vaccine Administration, the Administrative Measures for the Reporting and Monitoring of Adverse Drug Reactions, and the Pharmacovigilance Quality Management Regulation.

Pharmacovigilance Management Initiatives in 2022

Conducted signal detection and risk management

We, in accordance with product safety, regularly conducted signal detection, collected and identified signals and risks from various sources including product safety databases, official websites of various countries, literature databases, and clinical trials, and also proposed risk control measures. Meanwhile, we set up early warning rules, and timely analysed and handled the early warning signals, to comprehensively prevent and control safety risks.



Signed pharmacovigilance agreements

The Company carried out research on pharmacovigilance system activities of potential partners, and evaluated their pharmacovigilance capacity based on the research results. In accordance with the legal requirements at the locations of overseas partners, we signed pharmacovigilance agreements with them, involving case reports, regular safety update reports, risk management plans and risk management measures, so as to ensure the safety compliance of CanSinoBIO and our overseas partners.



Organised pharmacovigilance training

We conducted annual pharmacovigilance training for all employees, involving the background of pharmacovigilance regulations, basic knowledge and the process of handling adverse events.



Conducted post-marketing studies

We carried out post-marketing safety research on drugs and collected the related safety information for analysis and processing to ensure product safety.

During the reporting period, the Company accepted a special investigation of pharmacovigilance conducted by the Tianjin Drug Administration and conducted internal audits twice. The investigations were mainly based on pharmacovigilance investigation management measures, and the rectification after the investigation were all timely completed.



R&D and Innovation

CanSinoBIO has been focusing on vaccine R&D and innovation to safeguard people's health. We have established a sound R&D management system to promote stable and compliant R&D. The Company has been engaged in independent R&D of innovative vaccines, and organized experienced R&D staff to promote the development of multi-category and high-quality products, and have achieved interim innovation achievements.

R&D Management

In order to ensure the smooth progress of R&D projects, CanSinoBIO has established a project management system that meet the needs of R&D and set up a visualised, standardised and process-oriented R&D project management process. The system has established an experience base to enhance the transparency of R&D experience and promote the overall process management by building the components for project approval, planning, knowledge base, and risk management. Meanwhile, in order to ensure the orderly operation of each project, the Company plans the urgency of work tasks by evaluating the priority of projects, gives priority to key projects, and guarantees the steady progress of major projects as planned under the guidance of the standardised process.

CanSinoBIO, while highlighting R&D quality, has promoted high-quality R&D and innovation based on the combination of internal management and external supervision. In strict accordance with the laws, regulations and industry standards, such as the *Law of the PRC on Pharmaceutical Administration*, the *Law of the PRC on Vaccine Administration*, and *ICH Q10: Pharmaceutical Quality System*, we have developed safe and compliant R&D products. In 2022, the Company, referring to the *Good Manufacturing Practice - Appendix of Drugs for Clinical Experiments (Intentive)* issued by NMPA, improved the quality management process applicable to R&D, and accepted the on-site supervision of the drug administration in strict accordance with the scientific basis and technical requirements.

The Company is committed to building a dynamic talent system for enrolling R&D personnel with the ability to innovate, and also providing basic technical support for the expansion of R&D innovative pipeline based on master and doctoral



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talents experienced in biomedicine. As of December 31, 2022, the R&D personnel of the Group accounted for nearly 20% of total employees, and approximately 58% of R&D personnel are with master's degrees or above.

With the support of high-quality R&D management and R&D staff, CanSinoBIO has been developing innovative vaccine R&D pipelines following the market demand, and developing vaccines for more than 10 disease areas, including Ebola virus disease, COVID-19, and meningitis, in which fields, positive innovative progress and results have been made. In 2022, we steadily advanced the R&D of 7 candidate vaccines at the stage of clinical trials or application and 6 preclinical vaccine candidates under progress. We are also approved to market the world's first recombinant novel coronavirus vaccine (adenovirus type 5 vctor) for inhalation Convidecia Air[®] in China, to create an innovative mucosal immunity mechanism, and establish a new defense line against novel coronavirus.

In 2022, CanSinoBIO invested

RMB 790 million

in R&D and innovation, including expensed R&D costs and capitalised R&D costs

We published the interim R&D and innovation outcomes in major journals, and actively participated in domestic and international academic exchanges. In 2022, CanSinoBIO published 4 papers relating to its meningitis vaccine in well-known academic journals in China, such as the Chinese Journal of Vaccines and Immunization, which mainly presented the results of clinical trials about meningococcal vaccine for infants and children of different ages, and verified the safety and immunogenicity of Group A and C meningococcal polysaccharide conjugate vaccines. We also published 8 papers on COVID-19 vaccine research, including but not limited to the demonstration of clinical trial results and immunity of the separate use and combined use of the adenovirus vector vaccine and mRNA vaccine. 3 of them were included by international authoritative journals such as The Lancet and Emerging Microbes & Infections.



Protection Advantages of CanSinoBIO's Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for Inhalation Convidecia Air® Published on The Lancet

In 2022, CanSinoBIO published the "safety and immunogenicity of heterologous boost immunization with an orally administered aerosolised Ad5-nCoV after two-dose priming with an inactivated SARS-CoV-2 vaccine in Chinese adults: a randomised, open-label, single-center trial¹⁰" on The Lancet, which released the latest research data of Convidecia Air[®]. The data showed that it only took one fifth intramuscular dosage for the adult to induce a stronger neutralising antibody (NAbs) response than intramuscular injection. The vaccine can stimulate humoral immunity, cellular immunity and mucosal immunity; it has unique advantages of safety, effectiveness, painlessness, convenience and availability, with heterologous boost immunisation.



¹⁰ Safety and immunogenicity of heterologous boost immunisation with an orally administered aerosolised Ad5-nCoV after two-dose priming with an inactivated SARS-CoV-2 vaccine in Chinese adults: a randomised, open-label, single-center trial, can be accessed via https://www.thelancet.com/ journals/lanres/article/PIIS2213-2600(22)00087-X/fulltext

Efficient Protection Level of CanSinoBIO's mRNA CoV-2 Published on Emerging Microbes & Infection

CanSinoBIO, in accordance with the epidemiological characteristics of SARS-CoV-2, developed mRNA-Beta and mRNA-Omicron vaccines based on mRNA technology, and published "mRNA based vaccines provide broad protection against different SARS-CoV-2 variants of concern¹¹" on the Emerging Microbes & Infections in 2022. The research indicated that the mRNA vaccine has strong immune protection and effectively responds to different SARS-CoV-2 variants, and it significantly increases the level of neutralising antibodies against original, Beta, Delta and the new Omicron epidemic, thus providing lasting protection for the inoculators.



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We kept highlighting technical exchanges and cooperation internally and between different fields in the industry, enhancing our academic and R&D capabilities internally, and sharing the research and technology experience with external peers, so as to help ourselves and our partners to make common progress in R&D and innovation. In 2022, the Company organised internal academic salons four times for sharing academic knowledge and discussing technical routes under the leadership of the management personnel of the R&D Center and employees who have the title of scientist and above, thus improving knowledge and technical level through mutual exchange and learning.

Vaccine against Multiple Variants of SARS- ons		
Emerging Microbes & Infections		
ISSN: (Print) (Online) journal homepage: https://www.tandfonline.com/loi/temi20 RNA based vaccines provide broad protection gainst different SARS-CoV-2 variants of concern omeng Wang, Zhao Chen, Zhenghua Wang, Jin Li, Zhihong Yan, Jinbo an, Airu Zhu, Lan Chen, Ye Liu, Chenlong Hu, Ali Zhu, Guowei Li, Yuehu Li, Deng, Liqiao Ma, Xiuwen Sui, Wei Miao, Junqiang Li, Xiuyu Zheng, Jinhua ho, Yanfeng Yao, Juhong Rao, Chao Shan, Zhiming Yuan, Jincun Zhao & Tao u		

¹¹ mRNA based vaccines provide broad protection against different SARS-CoV-2 variants of concern, can be accessed via https://www.tandfonline.com/doi/ full/10.1080/22221751.2022.2081616

Intellectual Property (.)

CanSinoBIO, in strict accordance with the laws and regulations such as the Patent Law of the PRC, the Copyright Law of the PRC, and the Corporate Intellectual Property Management Code, established an intellectual property organizational management structure led by the Intellectual Property Management Committee for comprehensively organizing the intellectual property-related work. We also prepared and implemented multiple internal rules and regulations such as the Intellectual Property Management System, Intellectual Property Contingency Plan, Copyright Management Regulations, Trademark Management Regulations and Patent Management Regulations, to safeguard our own intellectual property in accordance with the law. In 2022, we added the Know-How Management Regulation for providing the standard operating procedure (SOP) for know-how management, which involved know-how summary, rating, awarding, filing and management, to improve the effectiveness of intellectual property protection.

CanSinoBIO protects its intellectual property while ensuring no infringement of others' intellectual property according to the Law of the PRC against Unfair Competition. In 2022, the Company newly added the "patent navigation" service, which inspired the hot R&D direction, and provided early warning of infringement risks during the application at an early period, to actively prevent actions that may infringe on the rights of others and prepare the responses in advance. In addition. CanSinoBIO conducted 10 global free-to-operate (FTO) analysis projects which proposed targeted suggestions about business strategy adjustment from the perspective of patent technology, thus helping to effectively reduce the risk of infringement of the patent.

CanSinoBIO encourages all scientific researchers to engage in invention and creation, and striving to build a good ecosystem for innovation. The Company prepared the Patent and Invention Creation Reward Regulations and distributed mental incentives or material rewards to the inventors based on the degree of technological contributions. Meanwhile, we also carry out training on intellectual property for relevant personnel engaged in intellectual property-related work, involving training about the intellectual property system, collection of know-how and drafting of patent applications. In 2022, CanSinoBIO organised 10 intellectual property empowerment training, with a total of 6,255 participants.

Total

Utility model

patents

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In 2022, CanSinoBIO organised

intellectual property empowerment training

with a total of

Utility model

patents

Invention

patents

Total





National-level award

The patent of CanSinoBIO, one of the inventors, for "recombinant SARS-CoV-2 vaccine using human replicationdefective adenovirus as vector" won the 23rd WIPO-CNIPA Award for Chinese **Outstanding** Patented Invention



the 23rd WIPO-CNIPA Award for Chinese Outstanding Patented Invention

In 2022, the patent of CanSinoBIO, one of the inventors, for "recombinant SARS-CoV-2 vaccine using human replication-defective adenovirus as vector" won the 23rd WIPO-CNIPA Award for Chinese Outstanding Patented Invention granted by China National Intellectual Property Administration (CNIPA) and World Intellectual Property Organization (WIPO). WIPO-CNIPA Award is the highest honor in the field of patents in China, and has been recognised by the WIPO due to its international influence. This award also marked the first time that a company in the Economic Development Zone has won the WIPO-CNIPA Award for Chinese Outstanding Patented Invention.

The recombinant novel coronavirus vaccine (adenovirus type 5 vector) Convidecia[®], CanSinoBIO's awarded patent, is the first approved adenovirus vector-based COVID-19 vaccine, and also the first patent granted for COVID-19 vaccines in China. Meanwhile, it is also the only COVID-19 vaccine developed with the innovative technology route in China and approved by the WHO, which can stimulate humoral immunity and cellular immunity. With this technology, CanSinoBIO can effectively contribute to epidemic prevention and control in China and other developing countries, thus helping to improve people's well-being.

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Invention

patents



Municipal-level award

The autonomous patent "cell line for reducing reproducible adenovirus production and the method of construction and application" won Tianjin Patent Excellence Award

"Recombinant SARS-CoV-2 Vaccine Using Human Replication-Defective Adenovirus as Vector" Won

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Customer Service

CanSinoBIO aims to empower all customers with high quality and continuously improve the user experience in all aspects. We adhere to product marketing and promotion in an ethical, scientific and objective manner, actively improve the development and management of product complaints, recall and traceability systems, and appropriately deal with safety incidents. We seek to effectively safeguard the rights of customers and the safety of vaccine users throughout the entire service process.

Service Assurance

Adhering to the philosophy of customer-first service, CanSinoBIO maintains active communication with all customers to truly, objectively and comprehensively understand their needs. The company develops a variety of channels to receive suggestions, comments and complaints from customers. Customers can give feedback through the third-party customer service center, hotline and open email. We also highlight the feedback from regulatory agencies, and also collect data through social media, websites and official monitoring centers, to actively monitor public opinion and data.



The Company publishes the hotline for CanSinoBIO vaccine products and services to respond to product-related information consultation from human subjects and their families and various healthcare professionals.

CanSinoBIO's hotline for vaccine products and services: 400-922-2099

The Company has prepared the Management Procedures for Complaints of Marketed Products covering all products, to continuously improve the complaint handling process; the procedures stipulate that any department shall provide feedback and make urgent response measures within 24 hours upon any complaint, and follow up on the subsequent investigation and the corresponding rectification. We require employees to deal with all complaints within 30 natural days so that the complaints can be timely and effectively resolved. Meanwhile, for the data regarding complaints from the customers. CanSinoBIO shall strictly restrict the data access rights. Such data can only be accessible in special circumstances involving audits or pharmacovigilance inspections to effectively protect customers' privacy.

In 2022, all complaints from the customers were effectively settled, with a complaint closing rate of **በ%**

for several

consecutive years.



and protect recipients' rights to health, the Company has purchased compensation insurance for adverse events following immunization of all vaccines marketed. The insurance companies provide the corresponding compensation for any adverse event following the immunization of the Company's vaccines in accordance with standards in the Vaccine Administration Law of the PRC and Measures for Compensation for Adverse Event Following Immunization in each province. For an emergency case, the Company promptly assists the disease control and prevention department, the healthcare commission and other government departments and units in properly treating the patients and their families.

¹² Adverse Event Following Immunization.



Compensation Procedure for Adverse Response to Vaccination





To ensure product traceability, we have prepared the *Procedures for the Management of the Vaccine Traceability System* according to the national standards and specifications of drug traceability. Besides, the Company established the drug traceability code system, provided the advanced version of the "Assurance Code", and attached unique traceability labels to the package of vaccine products at all levels to trace the origin and destination of vaccine products.

To further prevent product safety risks, CanSinoBIO updated its *Recall Management Procedures for Marketed Products* in 2022. While standardising all links of product recalls, the Company identified the responsibilities of the third party manufacturers for recalls, and closely monitored the marketed products; all defective products shall be timely recalled, and then investigated and evaluated. In the meantime, we ensure that all unused products¹³ are properly eliminated according to the *Management Procedures for Non-conforming Products*.

Product Recall Process



In 2022, CanSinoBIO reported no actual product recall.

safety risks of the product;

We simulated three recalls, including two domestic recalls and one international recall, covering Class I, II and III recalls. Targeting Convidecia[®] and Menphecia[®], we simulated the complete recall process in three circumstances: bacterial endotoxins exceeding the standard, being transported at too high or low temperature, and vaguely-printed lot numbers on vials packed in the last under-filled carton. The completion and timeliness rates of the three simulations reached **100%**, which effectively proved the effectiveness of the product recall process.

recall progress reports to the Drug Administrations;



Responsible Marketing

CanSinoBIO insists on professionalism and academic orientation with an attitude of scientific and rigorous responsible marketing. In strict accordance with the applicable legal requirements and industry guidelines, such as the *Drug Administration Law of the PRC*, the *Vaccine Administration Law of the PRC*, and the *Advertisement Law of the PRC*, CanSinoBIO has developed the *Manual of China Marketing Compliance Standards* for academic marketing and responsible marketing with practical actions.

The Company, while strictly complying with the requirements for anti-unfair competition and anti-monopoly, strives to make all marketing materials compliant with laws and regulations. We undertake that all references, quotas, or reprints are true and accurate and that key data regarding the indications and recipients are within the scope of the instructions, without exaggerated or false information. At the same time, the Company has developed special training plans for all departments, which require the sales team to organise regular training activities such as role play and lecture rehearsal, as well as a 90-day work plan for new employees and a week-long training on corporate culture, product information, communication skills and other professional knowledge and skills for the sake of compliant publicity and sales.

In 2022, CanSinoBIO reviewed all the marketing materials for four marketed products, i.e. Convidecia[®], Menphecia[®], Menhycia[®] and Convidecia Air[®]. The company ensures that the content of the materials is compliant, transparent, truthful, accurate, and not misleading, and ensures that the description and expression of product strength are free from omissions and errors.

process.

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Promotion Process and Method of Responsible Marketing

Communicate the Company's academic insights and product information by paying regular visits to health care professionals (HCP) including the disease prevention and control center and vaccination clinics;



Actively participate in academic activities organised by third-party societies or associations, hold regular academic discussions to help employees to enrich their knowledge and understanding of the latest industry trends; and accurately transmit academic insights and product information through medical professionals.

During the reporting period

CanSinoBIO had **no** lawsuits related to claims of false marketing.



Employees

CanSinoBIO adheres to the "people-oriented" development strategy and the corporate culture of diversity, fairness, and inclusiveness. We are eager for talent and attach great importance to the diversified development and sustainable training of talents, increase care for employees, ensure employees' occupational health, and promote the common growth of employees and the Company. We promise to treat every employee fairly, respect and protect their basic rights, take care of their health, and create a safe and comfortable working environment.


Employment Management

CanSinoBIO respects and fully protects the rights and interests of all employees and candidates. We strictly abide by the laws and regulations at the places where we operate. which includs the Labor Law of the PRC, the Labor Contract Law of the PRC, and the Provisions on Prohibition of Child Labor. We support international conventions of human rights and labor standards such as the UN Guiding Principles on Business and Human Rights, and constantly update our internal rules and regulations. The Company has specified in our Personnel Recruiting Management System, Work Attendance Management System, Employee Handbook, and other internal rules that child labor and incidents of forced labor are forbidden. In regular management, the Company further avoids and eliminates violations by reviewing information of potential candidates, signing the letter of commitment, and regulating internal penalties. In 2022, CanSinoBIO reported no cases of child labor, forced labor, or other non-compliance.

We are a firm advocate of diversity, inclusiveness and fairness in the workplace, and oppose any discrimination on the basis of gender, age, race or nationality. The Company ensures equal opportunities for employee recruitment, promotion, and training, and actively builds an inclusive workplace. Since the Company expands its business across the globe, we proactively seek out talents from different nationalities. ethnicity, and educational backgrounds.

CanSinoBIO's recruitment policies are mainly driven by the core corporate values of "RAISE" (Respect, Agility, Innovation, Superior in Quality and Engagement), and the concept of "Health Commitment-With You". We have widely enrolled talents through multiple channels to form a team of high-caliber employees. In 2022, the Company further widened recruitment channels, screened high-end candidates, and developed a strong talent pool to fully serve for the Company's strategic and business development requirements.

In 2022, the Company was awarded the "2022 Human Resources Management Best Practice Award of China" by the HRA¹⁴ and the "Aon's 2022 China Best ESG Employer" by the Aon Group¹⁵. These awards validate and recognise our talent development strategy and human resources management. In the future, we will continue to move up in talent management for robust corporate growth.



¹⁴ HRA refers to Human Resources Association, which was established in 1996. ¹⁵ Aon Group is a global consulting service provider.





¹⁶ This percentage is the turnover rate in our operation in China; no active employees resigned from our operations overseas. ¹⁷ CansinoBIO's employment in 2022 covers CanSino Biologics Inc. and subsidiaries within the scope of consolidated financial statements.

As of the end of the reporting period, the Group had 2,291 salaried employees. Female employees accounted for 46.22 percent



¹⁸ In 2022, the statistical dimension of the Group's employee turnover rate is the employees with labor contract at of CanSinoBIO Co., Ltd. and its subsidiaries within the scope of the consolidated financial statements. The employee turnover rate is calculated as follows: number of employees leaving during the reporting period/(total number of employees as at the end of the reporting period + number of employees leaving during the reporting period). In 2022, there were no active employees leaving at the Group's overseas operations.

CanSinoBIO strengthens democratic management, encourages open communication by setting up multiple channels for communication and feedback such as an HR mailbox and official WeChat account, and adds annual and midyear interviews to listen to employees' opinions or suggestions based on the communication process of performance assessment. To further understand employee satisfaction and demands in their jobs, we collect and listen to employee feedback and expectations through annual performance assessments, benefits surveys, and employee satisfaction surveys to navigate the direction of organizational construction. In 2022, the Company distributed satisfaction questionnaires to all employees of the Quality Center, covering five aspects: organizational development, workload, career growth, willingness to work, and work experience, to investigate and diagnose organizational problems and empower improvement. A total of 160 questionnaires were issued and 149 were collected. 93% percent of employees took part in the investigation. Employee satisfaction scored 5.93 points out of 7. Regarding the feedback and suggestions from employees in the survey, the Company has taken targeted measures to actively coordinate and optimise solutions, creating a better working environment for employees, and making all employees truly feel the warmth and care from the Company.

32

416

18,16%

1.081

762

2.279

Overseas

15.82%

3.23%

7.59%

11.31%

16.01%

99.48%

20.34%

32.41%

47.18%

33.26%

1.40%

CansinoBIO promises to do our best to create and maintain a good working atmosphere and hopes to solve the conflicts between superiors and subordinates or employees through dialogue. We have formulated and improved the Employee Complaint System and Employee Handbook to ensure a smooth and effective reporting process. In the event of disputes among employees, the Company encourages employees to resolve issues through internal communication and reporting systems. This year, the Company received no complaints related to labor issues.



Employee Complaint Process

Encourage employees properly file complaints through multiple channels, such as submitting a written complaint via voice@cansinotech. com, describing the unfair treatment and the expected results with proof, witness's names, contact, etc



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The HR department promptly handles complaints together with the supervisor of the informant, feeds back the results, and keeps them filed

Career Development

Employees' career growth is an important engine for the sustainable development of the Company. CansinoBIO continues to perfect the talent development system, provide employees with unblocked promotion paths, diverse training and communication opportunities to guarantee the supply of talented employees for the Compay's stable and high-speed growth.

CansinoBIO adheres to equal pay for equal work. We built better employee performance assessments and incentive mechanisms and provide competitive compensation for employee. In 2022, we aligned our remuneration policy with the market, optimised the remuneration structure and instituted an efficient, reasonable, and competitive salary system. In performance management, we adopt a double-dimension assessment, namely evaluating employees based on both their results and behaviors, to assess the performance of each employee more comprehensively, impartially, and objectively. The Company developed and improved variable remuneration plans and employee stock ownership plans to motivate and retain those who have excellent performance and potential growth, which systematically connects employees and the Company's development. In addition, we have formulated and implemented a company-level special reward scheme that combines cash incentives, encouragement and other methods to fully enliven employees.

CansinoBIO designs a dual career development path that combines managerial and professional development, allowing employees to choose or adjust their promotion direction depending on the business needs of the Company and their strengths and interests. The Company provides unimpeded career promotion channels for outstanding talents through scientific and efficient compound development paths and good employment mechanisms.



Dual Professional Development Channel

To attract and retain talented talents, we offered various subsidies and stable residences. Supported by the open and powerful talent leadership strategy of the Tianjin Municipal Government, we apply for various talent subsidies and declaration of eligibility for settlement on behalf of qualified employees. In 2022, the Company applied for talent reserve subsidies for more than 40 employees, and accumulated talent subsidies of more than RMB 2 million.





CansinoBIO's talent development strategy aims to ensure employees keep up with the changing times and grow with us by satisfying both the Company's needs for sustained growth and employees' needs for lifelong learning. According to the *Training management policies*, we optimised the talent training system with more projects that focuses on the improvement in leadership, professionalism, and versatility, so that employees can realise their selfworth. At the same time, We built a digital learning platform, using a convenient and intelligent way to expand learning content and improve training coverage. In 2022, the average training time of our employees was 149.2 hours, covering 100% of fulltime employees.

Help new managers improve their leadership skills quickly by completing comprehensive training programs such as role transition and leadership training.

Set up the value platform with managers serving as platform participants to carry out value discovery workshops, promote idea exchanges, build consensus on behavioral standards, strengthen their understanding of the Company's value, and jointly create new values that follow the original aspiration of entrepreneurship and meet the needs of new strategies. The concrete core values have been identified with dos & don'ts that are truly integrated into employees' daily work. At the same time, the managers dedicate themselves as the organiser, enabler, action supervisor, and feedback sources for how values are practiced and are also role models who personally implant values into the DNA of each employee.

Set up a phased induction plan throughout the probationary period for new employees, and coordinate training on new employee induction and department-specific position.

Assign mentors in departments to new employees, who guide them to quickly adapt to their jobs, determine their career direction, and help them sharpen

Strongly support employees' participation in external professional skills training. In 2022, over 100 employees participated in the training and received special awards for training.

Comprehensively improve employees' professional skills through both online and offline courses for personal and business needs.

Establish a team of internal trainers with members from various business departments of the Company and offer professional courses, Training to Become a Professional Internal Trainer to enhance the ability of trainers to transfer knowledge.

È Live Streaming Course - "CansinoBIO Medical Lecture"

On December 21, 2022, the Company invited national medical specialists to conduct the live streaming training session titled "CansinoBIO Medical Lecture". It was designed to expand the knowledge of employees in the vaccine industry. More than 240 employees actively signed up for participation. In this course, employees interacted and communicated with those specialists positively, through which they increased their understanding and application of professional expertise based on their practices.



Convidecia Air[®] Pioneer Certification Training

In 2022, the Company held training on the certification of recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air® Pioneer. We coordinated the R&D team, medical team, product team, and HR department to form an internal trainer team who would empower sales personnel in the business. The four training sessions witnessed the selection of 106 pioneers and 630 Convidecia Air® ambassadors. After the training, employees applied their comprehensive knowledge and professional operational capabilities to assist vaccination medical personnel with safe and orderly vaccination.



Training on Convidecia Air® Pioneer Certification

Group Photo of Convidecia Air® Training

孙美平

2022-12-21



¹⁹ In 2022, the online and offline training data covers CanSino Biologics Inc., excluding EHS training data. Training hours per capita by position and gender do not include quality related training, therefore the training hours per capita are slightly less than the average training hours per employee.

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Training hours by position¹⁹



Percentage of employees trained by gender





Employee Care

While offering a competitive and comprehensive remuneration system and a sound career development platform, CanSinoBIO hosts various humanistic activities and generous employee benefits to fully support employees' work and life. Our basic benefits include five insurances and one fund, gifts for employees' newborn babies, a flexible benefits platform, and psychological lectures and counseling.



100%

of employees chose to shop on

the flexible benefit platform

The coverage rate of employee social insurance reached 100%



In addition, to meet the diverse needs of different employees for benefits. CanSinoBIO's flexible benefits platform is smoothly and gradually launched in different modules under the theme of caring for employees. In the first half of 2022, Phase I of the flexible benefits platform rolled out optional physical checks to satisfy the demands of employees at different ages. In the second half of the year, after a survey of all employees, Phase II of the flexible benefits platform offered a total of 30 products in all aspects covering health care, life and entertainment, providing flexible options of employee benefits products, and 100% of employees purchased their goods on this platform. The flexible benefits platform enables employees to fully enjoy the benefits of our development amid a full sense of happiness, gain, and satisfaction and promotes the quality and efficiency of business through benefits.





Ping An Insurance Project

Considering the needs of employees' health and risk prevention in different scenarios, the Company launched the Ping An Insurance Project to provide supplementary insurance (including accidental injury insurance, fixed-term life insurance, critical illness insurance, comprehensive medical insurance, etc.) for each employee. In addition, the Company provides supplementary medical insurance against outpatient, emergency, and hospitalization for either child of employees free of charge. Since its launch for 10 months, the insurance project had settled more than 10,000 medical claims to protect the safety and health of employees and their families.



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Employee Psychological Assistance Program

In June 2022, the CanSinoBIO Employee Psychological Assistance Program (EAP Program) was officially launched. The Company cooperated with third-party professional agencies to offer free psychological care services for employees. Any employees who encountered any confusion in their daily work and life can communicate oneon-one with counselors through phone calls. All communications during psychological assistance are strictly confidential and will not be disclosed to the Company or other third parties without the written consent of the employees. The EAP Program not only effectively relieves employees' stress, but also helps employees improve their work efficiency and happiness.



Employee's Children Received Free Vaccination with Menhycia® Vaccines

After Menhycia® was launched, to convey care for the employees, the Company provides free vaccination with Menhycia[®] vaccines for the age-appropriate children of employees. In 2022, a total of 10 children of employees have been vaccinated with Menhycia® free of charge.



Ten Years of Growth: CansinoBIO Employee Sharing Session

On August 15, 2022, the Company held the "Ten Years of Growth: CansinoBIO Employee Sharing Session". The session reviewed the Company's history and promoted the Company's culture to deepen employees' understanding of the Company, and enhance internal unity and organizational efficiency and drive communication.



Employee Sharing Session

Occupational Health

CanSinoBIO takes fundamental responsibility of reducing occupational disease hazards and creating a safe working environment for employees. We have established a management system in accordance with the requirements of the ISO 45001 occupational health and safety management system and improved internal systems such as the *CanSinoBIO Occupational Health Management System* and the *Worker Protection Materials Management System* in combination with international guidelines such as the *Guidelines On Occupational Safety and Health Management Systems* proposed by the International Labour Organization, and local laws and regulations such as the *Law of the PRC on the Prevention and Control of Occupational Diseases*.

We comprehensively promoted occupational health management on three dimensions: early-stage risk prevention (management of Three Simultaneous, occupational risk assessments, hazards screening, and empowerment campaign), during-process protection and management (workplace safety management, operation management), and health monitoring and response. In 2022, we invested over RMB9.78 million in safety management. This year, the Company reported no work-related fatalities, but there were two cases of work-related injuries. Both cases were properly treated and the employees have recovered to resume their work. Those cases resulted in 24 lost work hours.



Through safety training, emergency drills, lectures, and other activities, CanSinoBIO has created a strong occupational health and safety culture and practiced a strong awareness of occupational health and safety. In 2022, we arranged and guided general / special safety training in 87 items, attracting 9,450 participants covering all employees and outsourcing suppliers. Over 7,900 participants took the assessments on 34 training subjects and 100% of them passed the assessment. For employees in positions exposed to high risks, the Company held specialised training and exercise on laboratory safety, chemical safety, and biosafety. 100% of employees participated in training and successfully passed the assessments.

The Company has conducted many emergency drills regularly and irregularly, including fire drills, and chemical safety emergency drills. Those drills aim to enhance the ability of all employees to handle emergencies and accumulate experience in response to the crisis. This year, we conducted 12 special and comprehensive emergencies, with a total of 545 participants.



Training on the Use of Fire-Fighting Equipment

Occupational Health and Safety Management Measures



To build a firewall to prevent workplace safety incidents, CanSinoBIO completed the safety risk assessment for each business segment, and produced and released a fourcolored map of overall safety risks and local safety risks; 11 risk labels for positions exposed to major and high-risks and 58 risk labels for different positions were developed and communicated to relevant positions and personnel.



Risk Identification

The directors of each area conducted 12 inspections including safety risk identification and hazard troubleshooting. A total of 193 risks and hazards were identified. Closed-loop rectification was completed for all hazards in 2022, with a completion rate of 100%.



CanSinoBIO engaged a thirdparty organization to detect and monitor occupational hazard factors in positions and personnel at risk of occupational disease; qualified professional institutions were also invited to establish medical service extension in the factory to be responsible for general diagnosis and treatment, preventive health care, and health education for employees with mild diseases. In order to further normalise pandemic control, inform employees of the latest anti-pandemic information more quickly and comprehensively, and protect their safety during the special period, the Human Resources Department, strongly supported by the Company's management, took a series of health caring actions. They timely printed and distributed the *COVID-19 Infected Persons' Stay-at-Home Manual* in collaboration with the Medical Affairs Department, and quickly established the "CanSinoBIO Employee Care Community for pandemic prevention". Considering the needs of employees, the Human Resources Department, together with the EHS Department, prepared epidemic prevention care package (including chewable vitamins, disinfectant wipes, medical masks, alcohol spray, and COVID-19 antigen test kit, etc.) for employees and delivered

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it to employees immediately to meet their immediate needs. The Company also monitored the pandemic situation in various regions timely, provided support to local employees, and coordinated the supply and distribution channels. In 2022, the Company provided the CanSinoBIO epidemic prevention love package, including food, daily necessities, and pandemic control materials, for employees in Shanghai. At the same time, we also sent kind greeting cards with the kits to warm and support our colleagues in Shanghai.

In addition, the Company attached great importance to the mental adjustment of employees during the pandemic. The Company's EAP Program keeps to providing employees with psychological knowledge related to stress and emotions, helping them master skills in mental adjustment, and maintain positive mental and emotional well-being.



Evacuation Drill for Employees



CanSinoBIO Epidemic Prevention Care Package

Environment

CanSinoBIO practices low-carbon and green operation concept and takes practical actions to mitigate the environmental impact of its own operations to contribute for the vision of carbon peaking and carbon neutrality. In the context of global climate change, we identify and assess climate change risks, continuously improve environmental management level and reduce emissions under the path of environmentally friendly and sustainable development.



Response to Climate Change

Climate change is impacting the global ecological environment and human health. In response to the national strategic deployment of carbon peaking and carbon neutrality, CanSinoBIO has identified and managed climate change risks associated with governance, strategy, risk management, indicators and targets, with reference to the recommendations of the Task Force on Climate-Related Financial Disclosure (TCFD). The Company has continuously strengthened its climate change risk resilience capability to help reach the goals of global climate action.

Climate Governance

The Board of CanSinoBIO is the responsible decision-making body for ESG and climate change efforts as it oversees and reviews climate risks and opportunities. The Audit Committee oversees the Company's environmental management to help reach environmental targets, while the ESG Working Group under the Audit Committee implements specific tasks and sets environmental targets.

We have established an internal Energy Efficiency Leading Group, which is led by CanSinoBIO's CEO and includes chief operating officer, vice President, department heads, and other leaders. The group will further enhance internal environmental management and provide protection against climate change.



CanSinoBIO comprehensively analyses the risks and opportunities brought by climate change and proposes actions from two dimensions: physical risk and transition risk. In 2022, based on the identification of climate change risks and opportunities, CanSinoBIO further enriched its response measures of those two risks in an effort to reduce the negative impact of climate change.



Climate change also presents opportunities for the Company. We carry out energy-saving and consumption-reducing transformations to lower operating and manufacturing costs. We have built a green office and a corporate culture of frugality in response to relevant national policies. The Company has transformed itself into an environmentally-friendly company, with a good corporate reputation.

Risk Response

• Watch for and follow up on the impact of climate change and natural disasters on disease transmission.

Watch for catastrophic weather and strengthen the emergency

plans and emergency response capabilities;

· Increase communication and contact with local authorities;

• Regularly inspect and maintain equipment and facilities to ensure their ability to withstand or mitigate the impact of natural disasters.

.....

 Fully assess the local climate risk and geographical location to avoid the risks that may be caused by natural disasters when selecting sites;

· Increase the protection of operation sites in coastal areas;

• Timely assess temperature changes, adjust conditions for cold chain transportation, and ensure stable storage and transportation.

 Keep our eyes on the launch and update of environmental policies, laws and regulations at home and abroad, and strengthen compliance management based on its own situation.

Take low-carbon and energy-saving measures in daily manufacturing and operation to reduce carbon emissions in R&D, manufacturing, daily equipment operation and maintenance, warehousing, transportation and supply, etc.

• Enhance the quality of information disclosure, increase communication with stakeholders, understand demands and respond through high-quality information disclosure, publicly disclose environmental targets, and build a green, low-carbon, and responsible image.

Climate Risk Management (.@

CanSinoBIO integrates ESG risks, including climate change risks, into its comprehensive risk management system. The Company fully considers climate risks and the possibility of their impacts on the Company and proposes mitigation plans and adaptive response measures to improve capacity-building to address climate change. We have developed Regulations on Water Cut-offs, Water Leaks and Industrial Steam Interruption for energy shortages caused by sudden environmental events. We have established an emergency quick-response team with rapid response capability to deal with unexpected environmental events. We watch for and timely warn and report information on natural disasters such as extreme weather, and take effective preventive measures. We conduct regular troubleshooting and testing of emergency equipment and facilities to ensure their good operation.

Indicator and Targets

CanSinoBIO's GHG Emission Reduction Target

Scopes 1 and 2: With 2021 as the benchmark year, total GHG emissions per floor area will be reduced by 40% by 2025 and 50% in 2030

We have set environmental management targets, and seek to lower GHG emissions by reducing energy use, using clean refrigerants, and encouraging employees and suppliers to practice a green and low-carbon lifestyle and operation. In 2022, we consumed 81 kg of refrigerant.

Our Scope 1 GHG emissions mainly come from directly owned or controlled energy consumption, while Scope 2 mainly comes from purchased energy consumption such as electricity and steam.

CanSinoBIO's GHG Emissions in 2022



Direct GHG emissions (Scope 1)







Total GHG emissions per floor area (tCO₂e per square meter)







²⁰ GHG inventories include carbon dioxide, methane, nitrous oxide and hydrofluorocarbons, mainly produced from the purchased electricity, purchased steam, fuel, and refrigerant use. GHG emissions are presented in carbon dioxide equivalents and are calculated based on the Guidelines for Accounting and Reporting of Greenhouse Gas Emissions by Enterprises - Power Generation Facilities (Revised 2022) issued by the Ministry of Ecology and Environment and the 2006 IPCC Guidelines for National Greenhouse Gas Inventories issued by the Intergovernmental Panel on Climate Change (IPCC).

Indirect GHG emissions (Scope 2)



Purchased steam (tCO₂e) 6.445.94



Green Operation

CanSinoBIO comprehensively enhanced environmental management. The Company shoulders environmental responsibilities by improving the management system, reasonably optimizing waste and emissions management to fully promote cleaner production and coordinate low-carbon green development.









CanSinoBIO carries out environment management in strict compliance with environmental laws and regulations including the Environmental Protection Law of the PRC, the Law of the PRC on Prevention and Control of Water Pollution. the Law of the PRC on Solid Waste Pol*lution Prevention*, the Law of the PRC on the Prevention and Control of Environmental Noise Pollution, and Law of the PRC on the Prevention and Control of Air Pollution. We also continue to improve environmental management systems including Environmental Management System, Water Resource Management System and Energy Management and Control System, in compliance with requirements such as ISO 14001 Environmental Management System and ISO 50001 Energy Management System.

During project construction and renovation, the Company strictly abides by the "Three Togethers" system of environmental protection facilities being designed, constructed and commissioned at the same time together with the principal part of the project. The Company also set specific environmental requirements for contractors such as entering into secondary treatment agreements with environmental sanitation companies and construction waste treatment plants, and transporting waste to approved treatment plants. Those efforts aim to ensure that the projects live up to relevant environmental requirements. In 2022, the Company did not have any environmental violations or emergencies, nor was it subject to environmental administrative penalties. In 2022, we invested approximately RMB8.4 million on environmental protection and management.

The Company's Environment, Health, and Safety Committee regularly conducts internal audits of environmental performance. The Engineering Service Center implements various requirements for environmental management to ensure projects are compliantly constructed and operated, and wastewater, waste gas, and solid waste ("Three Wastes") are disposed of in line with requirements to ensure that the Company's various environmental protection facilities are well operated. The Environment, Health, and Safety Committee regularly reports the audit results to the management of the Company and manages and supervises the business departments based on the audit results and actual conditions. In 2022. CanSinoBIO underwent five external environmental inspections. While the Company has expanded its production and experienced fast growth, there have been no major environmental accidents, achieved 100% compliance with disposal and emission targets for Three Wastes.

CanSinoBIO has formulated the New Contingency Plan for Environmental Emergencies in Enterprises and Public Institutions, establishing emergency measures for environmental accidents. In the event of an environmental accident, an environmental monitoring team, headed by the EHS department, is set up to monitor and evaluate the accident site. The team carries out environmental protection work related to pollutant collection and waste disposal to minimise harm. In 2022, the Company investigated the environmental hazards and risks in each operation and identified five risky units such as hazardous material warehouses and manufacturing workshops. As a result, the Company rectified and standardised the management of substances that may pose environmental risks, regularly inspected units teemed with environmental risks, and provided supporting physical facilities and contingency measures for risk controls.

Discharge Management

CanSinoBIO strictly manages all wastes generated during R&D, manufacturing, and operation, such as exhaust gas, wastewater, and solid waste. In 2022, we twice revised the Regulations of Hazardous Waste Management to continuously improve environmental performance while meeting environmental standards. The Company strictly implements cleaner production requirements during project construction, and takes environmental measures for exhaust gas treatment; wastewater should be discharged to the local sewage treatment plant after standard treatment, and the sewage station management unit is required to set operation and maintenance procedures for the sewage station; noise in our factories are required to meet the standard, and solid waste is treated uniformly by professional institutions.

CanSinoBIO strictly complies with government emission requirements and is open to supervision and review for applying and obtaining obtain a Discharge Permit. In 2022, we regularly invited third-party institutions to audit emissions, assess and analyse results, address problems and provide follow-up rectification. The Company continuously updates the detection of China Metrology Accreditation for Environmental Emissions (CMA) for multiple pollutants such as industrial wastewater, untreated industrial waste gas, treated industrial waste gas and industrial noise.



Governance Products Employees Environment Society



Information Form of CanSinoBIO Pollution Discharge 2022

Chemical oxygen demand (COD), ammonia nitrogen

Discharged into the municipal sewage system

500mg/L of Chemical oxygen demand (COD), 45mg/L of ammonia nitrogen

Integrated Wastewater Discharge Standard (DB12356-2018)

8.10 tons of chemical oxygen demand (COD) and 0.56 tons of ammonia nitrogen

CanSinoBIO's Waste Gas Target

With 2022 as the benchmark year, the total waste gas emissions will be reduced by 10% by 2023

CanSinoBIO's Waste Target

Reinforce waste sorting management; with 2022 as the benchmark year, hazardous waste generation will be reduced by 10% by 2023

CanSinoBIO's Wastewater Target

Enhance the upgrading and transformation of wastewater discharge systems and reduce the content of pollutants in wastewater The main emissions of the Company include GHG, particulate matter and nitrogen oxides from the use of purchased electricity, purchased steam and the burning of natural gases. We strengthen the management of waste gas for emission reduction. In 2022, the Company conducted low nitrogen renovation on two 6.6t boilers to reduce nitrogen oxide emissions. The Company standardised the construction of the discharge outlet where we put a environmental protection signboard for the reminders. The Company installed an online networked monitoring system for volatile organic compounds (VOC) to enhance the convenience and timeliness of monitoring. We upgraded the exhaust system, activated carbon box, exhaust fan, and other parts of the exhaust emission facilities to make it adsorb harmful substances more efficiently in the waste gas and reduce the emission of harmful substances.

We strictly implement the *Integrated Wastewater Discharge Standard* (DB12356-2018), the level III discharge standard in Tianjin and other local discharge standards. Our wastewater discharge process includes industrial wastewater generated during R&D, manufacturing, and domestic wastewater generated during operation. The main pollutants in wastewater include chemical oxygen demand (COD), ammonia nitrogen (NH₃), suspended solids (SS), etc. The wastewater is treated by our self-owned wastewater treatment plant and discharged to the wastewater treatment plant in the West Zone of Tianjin Economic and Technological Development Area.

In 2022, in order to better support the expanding production and improve wastewater treatment capacity, the Company mainly upgraded and reconstructed its wastewater treatment and discharge facilities. After optimization, the Company's wastewater station reduced energy consumption by 3 percent and saved 10 percent of raw material and excipients consumption. The Company has built long-term monitoring system to supervise sewage discharge, control pollutants, prevent ground seepage, and control the generation, infiltration, diffusion, and emergency release of pollutants.





The Sewage Treatment Renovation of CanSinoBIO in 2022:

Upgraded the online wastewater monitoring system, the energy-saving and capacity expansion project, and the fume hood, and acid dosing system in the industrial sewage station; guided the sewage station operation and maintenance units to conduct technical management and transformation of the deodorization system of the sewage station

Enhanced the compliance and reconstructed acid dosing system at the sewage station of the COVID-19 sewage station

Adopted online system monitoring for wastewater in the Rongsheng Building

General solid wastes generated by the Company mainly include domestic waste and kitchen waste, which are collected and treated by a third-party organization with professional qualifications. Hazardous wastes generated by the Company include medical waste, waste chemical reagents, waste organic solvents, waste liquid, solid hazardous waste, and other waste. The Company continues to optimise hazardous waste management and disposal measures to avoid environmental pollution caused by the leak of hazardous chemicals. In 2022. we weighed the hazardous waste and analysed the amount of hazardous waste generation by each department on a monthly basis to reduce the generation and discharge of hazardous waste. The Company recorded the number of empty reagent bottles generated in the laboratory and classified laboratory waste liquid, which was stored in the temporary hazardous waste storage unit in the building. We required that containers for biological waste must be labeled as biological waste. After being sterilised in autoclaving, biological waste was collected for subsequent treatment. Contaminated substances or adsorption materials contaminated with hazardous waste must be collected in designated hazardous waste garbage bags. In 2022, we further strengthened the refined management of hazardous waste by separating glass bottles and packaging materials to be treated as general solid wastes, which made waste management and treatment more efficient and cut costs. The Company conducts pre-treatment for the hazardous waste collected, which is then through transportation companies transported to a third-party Company certified for the disposal of hazardous waste.



CanSinoBIO's Key Performance Indicators for Emissions

Types of Emissions	Indicators	Unit	Statistics in 2022
Wastewater	Total wastewater emissions	tons	238,153.00
	Chemical oxygen demand	tons	8.10
	Suspended solids	tons	3.57
	Ammonia nitrogen	tons	0.56
Waste gases	Total waste gas emissions	cubic meter	407,700,000.00
	Non-methane hydrocarbon	tons	0.50
	Oxynitride	tons	1.57
	PM (particulate matter)	tons	0.18
Non-hazardous waste	Total non-hazardous waste	tons	158.53
	Total non-hazardous waste per floor area	tons per square meter	0.0018
Hazardous waste	Total hazardous waste	tons	307.15
	Total hazardous waste per floor area	tons per square meter	0.0035

Resource Management

CanSinoBIO adheres to the energy policy of "Continuously Scientific Consumption Reduction at the Source by All Employees." The Company improves the energy saving and environmental awareness of all employees with the concept of cost management, creating an environment in which "everyone acts routinely in an economical way," and developing the habit of refined management with diligence and frugality. In the process of R&D and manufacturing, CanSinoBIO strictly abides by laws and regulations such as the *Law of the PRC on Energy Conservation* and the requirements of authorities. With reference to standards such as the *Energy Management System - Requirements and Guidelines for Use (GB/T 23331-2020)*, the Company has developed internal energy use systems such as the *Regulations of Energy Management*, the *Regulations of Gas Fired Boiler Production and Operation*, and the *Energy Management System* to carry out energy management with a systematic and standardised energy management system. In 2022, the resources used by CanSinoBIO in R&D, manufacturing and daily office operations mainly include electricity, natural gas, steam, gasoline, diesel, water, and packaging materials. In 2022, we consumed 391 tons of packaging materials.

CanSinoBIO's Energy Consumption Targets

- To optimise the manufacturing and R&D facilities and improve energy efficiency
- To manage the use of energy to avoid unnecessary energy consumption and waste

We strictly measure and monitor energy and resource use. We have built engergy-use monitoring systems to track the use of energy. We strengthen the monitoring and scheduling on how the key energy-consuming equipment operates. This allows us to compare our energy consumption indicators with advanced energy consumption indicators of the same energy consuming equipment and processes in the industry by summarising energy consumption changes. We process, and analyse problems we discover and make technical modifications, to implement energy conservation and reach our energy consumption goals. The Energy Management Group regularly holds monthly energy efficiency management meetings, listens to the reports of energy conservation management personnel, and analyses data on energy resource use. During the operation of energy conservation assessment standards, methods, and procedures, departments that fail to meet the requirements will be reported to the Energy Conservation Leading Group for further review. In the future, the Company will further increase the consideration of energy use in employee performance appraisal and require all departments to strictly adhere to their allocated energy budget.

CanSinoBIO continues to refine its energy management. When purchasing new equipment, the Company comprehensively considers energy consumption performance to make current equipment and facilities transform towards energy efficiency. During the construction of new plants, we draw on advanced industry experience to take energy-saving measures at the source and initial stage to avoid unnecessary energy consumption during subsequent modifications during use. We carry out comprehensive energy-saving optimization for production equipment to reduce resource consumption. In 2022, we renovated 13-Valent pneumococcal conjugate vaccine filling facilities and used more energy-saving and environmentally friendly equipment. In 2022, the Company invited a third party to conduct an annual energy audit and reported the audit results to authorities.



CanSinoBIO's Monitoring System



The Company continues to optimise and improve its electrical equipment. The Company has installed energy-saving lighting without affecting the lighting, and is gradually phasing out energy-extensive lighting. The Company plans for the more scientific operation of air conditioners in multiple areas when production is not in progress. Frequency conversion is being applied to the motors of some equipment, and synchronous belts are used for fans, further reducing the consumption of electrical energy.



CanSinoBIO Connects to the Municipal Steam Pipe Network

In 2022, the Company's two operations, Rongsheng Building and Vaccine Commercialization Base, were connected to the municipal steam pipe network, replacing the use of some natural gas used for heating. Reconstruction of the condensate recovery system was completed at our COVID-19 Vaccine Plant. We recovered waste heat from condensed water from natural gas and steam and transferred some hot water to air conditioning units and other equipment to achieve full use and utilization of energy.

The Company consumes gasoline mainly in the operation of its vehicles. The Company scientifically plans the operation schedule and route of buses provided to employees for commuting. Employees who use company vehicles for business travel are required to strictly follow the application and approval process while the supervision team will inspect the use of vehicles to reduce the costs and gasoline consumption. We have improved the operational efficiency of the machine and saved many diesel fuels.

The Company's water resources mainly come from municipal water. We reduce energy consumption for water consuming equipment such as water purification machines by adjusting parameters. We conduct troubleshooting and regular maintenance of water pipelines to avoid unnecessary loss caused by water running, emitting, dripping, and leaking.

The Company promotes the green office concept. Limits are mainly set for office lighting and air conditioners, energysaving tips are posted near switches, and responsibilities of turning off lights and air conditioners at desks are arranged into specific departments, so as to reduce unnecessary use of electricity in office areas. We encourage printing on other sides of paper whose side is written with non-classified contents. In the canteen, we reduce lighting during non-dining hours and control the time and temperature at which the air conditioners run. The goal is to practice the values of low-carbon life.

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Special Event of Environmental Protection Day

In 2022, CanSinoBIO organised special activities on environmental protection days such as World Environment Day and World Water Day. The promotional activities included publicity boards, banners, videos, award-winning Q&A, and environmental knowledge Q&A. The events attracted more than 400 participants, they further raised employees'awareness of environmental protection and conservation and helped shape a good atmosphere where all employees try their best to save energy.



[&]quot;World Water Day" Environmental Protection Activity at CanSinoBIO



Society

CanSinoBIO proactively shoulders social responsibility, innovate R&D, manufacturing, and industry cooperation in medical fields, and provides technology and products to areas with underdeveloped public health. We make contributions to the well-being of people in developing countries and low-income areas of China and the world. We exert our utmost to promote access to health care solution in society and ensure healthy development.

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Access to Health Care

CanSinoBIO continues to explore R&D efforts in its own field and bring mature innovation and R&D achievements to the world, to provide people in low-income regions and developing countries with access to safe and highquality products at affordable prices and alleviate the inequality in medical services caused by poor local public health standards and other reasons. Through product popularization, agreement cooperation and technical assistance, we continuously improve the benefits and accessibility of our products.



Accessible Product

CanSinoBIO is actively engaged in the R&D of pneumonia, DPT, tuberculosis, novel coronavirus (COVID-19), meningitis and other diseases. The Company expands and upgrades current products and speeds up its R&D to satisfy the growing public demands. In 2022, Menphecia[®], our first domestic tetravalent meningococcal conjugate vaccine, was allowed to be administered to infants aged three months. In addition, the world-first recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®] features high immunogenicity, safety and painlessness, bringing convenience to vaccination for the elderly, children and people with needle phobia. Both vaccines have made contributions in different phases to expanding the accessibility to more age groups and are beneficial to protect the health and safety of wider age range.

With our accumulated product advantages, we assist in building vaccine industry supply chains and improving public health standards in underdeveloped regions, and helping them improve their early stage R&D, middle stage production, and final stage promotion capabilities, thus contributing

to vaccine accessibility. The CanSinoBIO's Scientific Consultation Commission conducts discussions on research related to access to health care, exploring action plans and paths for upgrading the capacity of the medical industry in the context of market demand in developing countries and low-income regions. The Company is committed to improving product quality, expanding the access to products in developing countries, and satisfying their basic needs in health care.

In terms of international promotion of COVID-19 vaccines. Convidecia®, our COVID-19 vaccine for intramuscular injection, obtained emergency use authorizations in more than 10 developing countries, including Pakistan, Mexico, Ecuador, Chile, Argentina, Hungary, Kyrgyzstan, Indonesia, the United Arab Emirates, Malaysia, with widely vaccination already undeway in some overseas countries. In 2022, our recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air® was successfully launched and approved for emergency use in Morocco to help prevent and control local COVID-19 pandemic.

æ Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for Inhalation Convidecia Air[®], Ğ was Successfully Approved for Emergency Use in Morocco

In 2022, the world-first recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®] was approved for emergency use by the Ministry of Health and Social Security of Morocco. Following China, Morocco is the second country to approve the use of the COVID-19 vaccine for inhalation.



COVID-19 Vaccine for Inhalation Supplies Arrived in Morocco



CanSinoBIO pays close attention to the technological needs of developing countries and helps enhance local supply chain development and drug production, so as to improve public health systems in remote areas with poor transportation and few medical resources and makes up for the shortcomings of local health service. Currently, we have collaborated with Mexico, Pakistan, Malaysia and other countries to set up filling and manufacturing lines to boost local production of the COVID-19 vaccines. At the same time, we have established mature commercial service networks and efficient and safe supply and distribution systems in countries and regions such as China, Southeast Asia, the Middle East, and Latin America, making innovative and high-quality vaccines accessible globally.

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CanSinoBIO collaborated with Solution Biologics, a Malaysian pharmaceutical company, to establish the first local plant with formulation and filling process. This production line was awarded GMP certification granted by the National Pharmaceutical Regulatory Agency (NPRA) of Malaysia in 2022, and was approved to locally fill the COVID-19 vaccine Convidecia®, helping solidify immune barriers in Malaysia.

In addition, Malaysia is one of the PIC/S²¹ member countries. The GMP certificate is widely recognised among PIC/S organization member countries. We will actively summarise our experience and strive to cooperate with more PIC/S member countries in public health, so that our high-guality and accessible products and technologies can benefit public health construction in more countries.

²¹ PIC/S (Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme) aims to implement GMP certification according to unified standards. On a voluntary basis, member countries recognize official GMP certification reports to each other to reduce non-tariff trade barriers to the circulation of drugs, saving labor, time and material costs

In addition, we plan to develop further cooperation in the value chain of vaccines with countries such as Indonesia and Malavsia. In 2022, we reached a strategic cooperation agreement with Etana, an Indonesian biopharmaceutical company, on inhaled tuberculosis vaccine and meningitis vaccine, and carried out clinical trials with Malaysia on inhaled COVID-19 vaccine, continuously helping them to address unmet public health needs, to strengthen local public health and create long-term social value.

CanSinoBIO Helps Convidecia[®] Filling Manufacturing Line in Malaysia Obtain GMP Certification



Convidecia[®] Filling Process



We have launched long-term cooperation schemes with some countries to comprehensively help underdeveloped regions enhance their R&D capabilities and technologies. In 2022, CanSinoBIO joined the China-Malaysia Cooperation Plan, which is the first in-depth cooperation concluded by the National Institutes of Biotechnology Malaysia (NIBM) and Chinese vaccine companies, and the plan was supported by Malaysian government with a total of RMB 525 million investment. The substantive cooperation focuses on the development of selected human vaccines, the exchange of researchers and technical experts. technology transfer, advanced manufacturing, and commercialization of vaccines in Malaysia and the international market.

In addition, CanSinoBIO is willing to train medical personnel using the professional expertise of its employees, including training on laws and regulations, training on mRNA products and clinical trials, training on vaccines for inhalation and vaccination, etc., to help improve the technical capabilities of medical workers.



CanSinoBIO Conducted mRNA Vaccine Training Meeting

In 2022, we hosted the "Phase II Clinical Trial Kick off Meeting and Researchers Training Meeting of Can-SinoBIO mRNA COVID-19 Vaccine" at the Hunan Provincial Center for Disease Control and Prevention. All researchers of CanSinoBIO involved in the project attended the training and exchanged on professional issues related to the COVID-19 mRNA vaccine, including the introduction of vaccines and clinical trial programs, as well as professional training of laws, regulations and related standards such as the Law of the PRC on Vaccine Administration, and Good Clinical Practice (GCP) for Drug Trials.



CanSinoBIO Held a Professional Training Meeting at the Hunan Provincial Center for Disease Control and Prevention

Social Empowerment

CanSinoBIO's long-remembered social responsibility focuses on giving back to society and benefiting the public. We continue to pay attention to community needs and public health while leveraging our professional advantages in conducting activities such as material donations, the fight against pandemics, and continue to carry out health education and science populatization, sharing our professional strength to build a healthy and mutually supportive society.



CanSinoBIO keeps itself informed of the public's demands. To further popularise health knowledge and improve public awareness of health, we make full use of online, digital and intelligent promotion to focus on key groups through online and offline channels, and comprehensively advocate and implement health knowledge activities through forums and articles.

CanSinoBIO actively holds and participates in professional fields conferences such as the academic seminar, and the forums on mRNA vaccine R&D and industrialization. These conferences successfully attracted extensive engagement from authorities and professionals from universities, industry authorities and industry representatives, collaboratively contributing our knowledge and strength for national vaccine R&D and national health.

In addition, we regularly write and publish articles to popularise health knowledge on official website and official WeChat account. In 2022, the world-first recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®] was launched by CanSinoBIO. Since the special characteristics of inhaled vaccine compared with traditional intramuscular vaccine and the low level of public acknowledge of inhaled vaccines, we timely announced the steps of vaccination of our inhaled vaccine on the official platform, introduced the safety of the vaccine and the level and efficacy of antibody, and listed vaccination sites to facilitate recipients for vaccination, informed them of the latest information and handled the queries in a timely manner.

CanSinoBIO Participated in the Preparation of an Academic Seminar

On October 31, 2022, CanSinoBIO successfully participated in preparing the first "Innovative R&D and Quality Control of Bacterial Vaccines Academic Seminars". Professionals from various fields exchanged views on bacterial disease prevention, vaccine R&D and product guality control. The conference focused on the "Research Progress of Pneumococcal Polysaccharide Vaccine", "BVPD²² Monitoring Progress and Demand Challenges", "Protective Mechanisms and Evaluation of Blood Flow Infection Vaccines" and other topics. This exchange was conducted online in the form of live streaming, effectively broadening the popularity of the communication process and results.

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Official WeChat Account Popularises the Upgraded Protection of CanSinoBIO's Inhaled Vaccine





In accordance with the Charity Law of the PRC, the Law of the PRC on Donation to Public Welfare and other laws and regulations, CanSinoBIO has formulated an internal Donation Management System, which prioritises better quality of medical and health care, better education of public health projects and other activities, and ensuring that the interests of the community are fully considered in various business activities. Led by the General Manager's Office, we have actively engaged in charitable causes with public welfare projects including material donations, voluntary services and rural revitalization to interpret our firm belief in serving the people.

In 2022, we continued to support various charitable associations and foundations by assisting them in public welfare services such as providing assistance to hospitals, the disabled, the elderly, orphanages, schools, and disaster relief. We joined hands with various sectors in public welfare activities. Among them, we support the "the Second Environmental Health Medicine Innovation Conference", hosted by the China Health Promotion Foundation, which will gradually promot the development of public health and expanded public welfare to broader areas such as environmental protection.

Since the outbreak of the COVID-19 pandemic, CanSinoBIO has attached great importance to fighting against pandemic. While mainly devoting ourselves to our vaccine R&D, we also actively participated in disease prevention and control in communities. We use our professional advantages to help build a solid epidemic prevention and control network with "CanSinoBIO Power" through donations and contributions, as well as by dedicating ourselves to the frontline of fighting against the pandemic.

In 2022.

the Group spent

more than RMB 1_31 million

and foundations

pandemic

The Group's Participation in

Charitable Activities in 2022

RMB **1 1 8** million

RMB **136** thousand

Direct donations to charitable associations

Investment in activities of fighting against

on public welfare and charity

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CanSinoBIO Volunteer Team Helped Process Nucleic Acid Testing Samples

In 2022, in the face of large-scale nucleic acid testing brought by the sudden COVID-19, the workload for Shanghai nucleic acid testing agencies has been increasing. The general manager of the Shanghai subsidiary of CanSinoBIO formed a volunteer team of professional personnel who are familiar with molecular biological testing to fight against the pandemic, and provided immediate support on the front line with its professional strength in biological products and public safety. At the nucleic acid testing agencies, the team scanned and purified the collected samples, and helped the analysts to test on machine, effectively eased the pressure on personnel in those agencies.



CanSinoBIO Employees Participated in Nucleic Acid Testing Samples Processing

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CanSinoBIO Aid for Pandemic Prevention in Zhejiang

In 2022, amid the emergency of COVID-19 raiding Zhejiang, staff volunteers from Zhejiang team of CanSinoBIO quickly participated in fighting against the pandemic. The staff involved in voluntary activities covered Hangzhou, Jiaxing, Shaoxing and other places, providing help with local prevention and control work such as crowd guidance and information entry at the vaccination sites of the mobile shelters

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È CanSinoBIO Supported the Pilot Use of Inhalated Vaccine

In 2022, employees of functional departments of CanSinoBIO formed a "Convidecia Air[®] Volunteer Team" to help the pilot use of recombinant novel coronavirus vaccine (adenovirus type 5 vector) for inhalation Convidecia Air[®] in Tianjin. While actively completing their duties, our Party members actively volunteered at the vaccination sites, and on the basis of completing their own work in quality and quantity, they went into the front line of vaccination. As the researcher and developer of the inhaled vaccine, they assisted local vaccination sites to guide the public to complete the inhalation vaccination correctly, protecting the health and safety of citizens in Tianjin.





Employees from CanSinoBIO Participated in the Epidemic Prevention and Guidance Work in Zhejiang

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	403-6 Promotion of worker health	P79-80
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	P79
	403-9 Work-related injuries	P79
	3-3 Management of material topics	P74
GRI 404: Training and Education	404-1 Average hours of training per year per employee	P76
2016	404-2 Programs for upgrading employee skills and transition assistance programs	P74
GRI 405:	3-3 Management of material topics	P69
Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	P35
GRI 406:	3-3 Management of material topics	P34, P69
Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	P34, P69
GRI 408:	3-3 Management of material topics	P69
Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	None
GRI 409:	3-3 Management of material topics	P69
Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	None
	3-3 Management of material topics	P100
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	P100
	413-2 Operations with significant actual and potential negative impacts on local communities	None
GRI 414:	3-3 Management of material topics	P47-48
Supplier Social	414-1 New suppliers that were screened using social criteria	P47-48
Assessment 2016	414-2 Negative social impacts in the supply chain and actions taken	None

GRI 416: Customer Health and Safety 2016	3-3 Management of material topics	P51-57
	416-1 Assessment of the health and safety impacts of product and service categories	P65
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	None
	3-3 Management of material topics	P66
GRI 417:	417-1 Requirements for product and service information and labeling	P66
Marketing and Labeling 2016	417-2 Incidents of non-compliance concerning product and service information and labeling	None
	417-3 Incidents of non-compliance concerning marketing communications	None
GRI 418: Customer Privacy 2016	3-3 Management of material topics	P42
	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	None

List of Internal Systems²³

System	ESG Reporting Guide by HKEX
Environmental Management System	A1 Emissions, A3 the Environment and Natural Resources
Regulations of Hazardous Waste Management	A1 Emissions, B2 Health and Safety
Wastewater Pollution Control system	A1 Emissions
Waste Gas Pollution Control system	A1 Emissions
Water Resource Management System	A2 Use of resources
Production and Operation Regulations for Gas Fired Boilers	A2 Use of resources
Environmental Monitoring and Control System	A3 the Environment and Natural Resources
New Contingency Plan for Environmental Emergencies in Enterprises and Public Institutions	A3 the Environment and Natural Resources
Regulations on Water Cut-off, Water Leak and Steam Shutdown	A4 Climate Change, B2 Health and Safety
Personnel Recruiting Management System	B1 Employment
Training Management System	B1 Employment
Remuneration and Welfare Management System	B1 Employment
Performance Management System	B1 Employment
Employee Promotion System	B1 Employment
Employee Handbook	B1 Employment, B4 Labor Standards
Occupational Health Management System	B2 Health and Safety
Worker Protection Materials Management System	B2 Health and Safety
Hazard Identification, Risk Assessment, and Graded Risk Control System	B2 Health and Safety
Regulations on EHS Risk Investigation	B2 Health and Safety
Safety Education and Training Management System	B2 Health and Safety
Hazardous Chemical Safety Management System	B2 Health and Safety
Emergency Rescue Plan for Workplace Safety Accidents	B2 Health and Safety
Regulations for the Management of Site Safety Inspection of Construction Projects	B2 Health and Safety
Work Permit Safety Management System	B2 Health and Safety
Emergency Evacuation Management System	B2 Health and Safety
Occupational Disease Hazard Declaration System	B2 Health and Safety

²³ This table only includes internal systems and key systems relating to each ESG topic disclosed in the Report as the part of the Company's all internal system lists.

Management System for Domestic and Overseas Assignment
Dual Professional Development Channel System
Contractor Safety Management System
Supplier Management Procedures
Supplier Management Regulations
Procurement Management Procedures
Biding Regulations
Bidding Management System
Product Price Management System
Quality Standard of Recombinant Novel Coronavirus Vaccine (/ Type 5 Vector)
Quality Standard of Meningococcal Group A and C Polysaccha Conjugate Vaccines (CRM 197 Vector)
Quality Standard of Meningococcal Group ACYW135 Polysacc Conjugate Vaccines (CRM 197 Vector)
Constitution of the Drug Safety Committee
Pharmacovigilance Management System
China Marketing and Operation Standard Manual
Product Risk Management System
Handling Procedures for Suspected Abnormal Reactions to Vac
Intellectual Property Management System
Intellectual Property Emergency Plan
Patent Regulations
Technical Secret Management Regulations
Marketing and Operation Standard Manual
Compliance Handbook
Anti-Corruption and Fraud Management System
Employee Receiving Gift Management Process
Donation Management System

	B3 Development and Training
	B3 Development and Training
	B5 Supply Chain Management
	B6 Product Responsibility
denovirus	B6 Product Responsibility
ide-Protein	B6 Product Responsibility
aride-Protein	B6 Product Responsibility
	B6 Product Responsibility
cination	B6 Product Responsibility
	B7 Anti-Corruption
	B7 Anti-Corruption
	B7 Anti-Corruption
	B8 Community Investment

ESG Data List²⁴

Environmental

Indicator	Unit	2022	2021	2020
GHG Emission				
Total GHG emissions (Scopes 1 and 2)	tCO ₂ e	30,517.25	35,159.36	17,340.87
Total GHG emissions per floor area	tCO₂e per square meter	0.35	0.54	3.40
Natural gas	tCO ₂ e	5,779.84	8,488.36	4,514.50
Gasoline	tCO ₂ e	129.36	136.66	/
Diesel fuel	tCO ₂ e	7.25	5.37	0.78
Refrigerant	tCO ₂ e	123.93	/	/
Purchased power	tCO ₂ e	18,030.93	26,528.97	12,825.58
Purchased stream	tCO ₂ e	6,445.94	/	/
Discharge and Emission			*	•••••••
Total wastewater emissions	tons	238,153.00	266,751.00	196,232.80
Suspended solids	tons	3.57	3.38	/
Chemical oxygen demand	tons	8.10	4.98	14.72
Ammonia nitrogen	tons	0.56	0.58	1.08
Total waste gas emissions	cubic meter	407,700,000.00	517,216,680.00	/
Oxynitride	tons	1.57	1.49	3.30
Non-methane hydrocarbon	tons	0.50	0.52	/
PM (particulate matter)	tons	0.18	0.17	/
Total non-hazardous waste	tons	158.53	31.63	56.81
Total non-hazardous waste per floor area	tons per square meter	0.0018	0.0005	0.011
Total hazardous waste	tons	307.15	240.34	79.29
Total hazardous waste per floor area	tons per square meter	0.0035	0.0037	0.016
Resource and Energy Use				
Natural gas	cubic meter	2,640,585.26	3,878,006.00	2,133,453.44
Gasoline liter		59,495.58	62,854.00	/
Diesel fuel	liter	2,736.00	2,027.00	300.01
Refrigerant	kg	81	/	/

 $^{\rm 24}$ Data marked "/" were not included in the statistics that year.

kWh	31,616,569.00	28,165,380.00	18,015,990.00
tons	22,113.00	/	/
MWh	83,874.56	70,698.05	41,106.78
MWh per square meter	0.95	1.08	8.06
tons	391,308.00	333,439.00	245,291.00
tons per square meter	4.42	5.12	48.10
tons	391.00	265.00	1
	tons MWh MWh per square meter tons tons per square meter	tons22,113.00MWh83,874.56MWh per square meter0.95tons391,308.00tons per square meter4.42	tons 22,113.00 / MWh 83,874.56 70,698.05 MWh per square meter 0.95 1.08 tons 391,308.00 333,439.00 tons per square meter 4.42 5.12

Social and Governance

Indicator	Unit	2022 ²⁵	2021 ²⁶	2020
	Unit	2022	2021	2020
Employment			1	1
Number of employees	employee	2,291	1,404	733
Number of new salaried employees this year (including those who have left)	employee	948	807	/
Number of employee by gender				
Male	employee	1,232	712	349
Female	employee	1,059	692	384
Proportion of employee by gender				
Male	%	53.78	51	48
Female	%	46.22	49	52
Number of employee by employment type			*	*
Senior managers	employee	30	23	/
Middle managers	employee	264	156	/
Junior employees	employee	1,997	1,225	/
Proportion of employee by employment type			*	*
Senior managers	%	1.31	2	/
Middle managers	%	11.52	11	/
Junior employees	%	87.17	87	/
Number of employee by age			*	*
30 and below	employee	803	485	252
30-49	employee	1,458	887	453
50 and above	employee	30	32	28
Proportion of employee by age	i			
30 and below	%	35.05	35	34
30-49	%	63.64	63	62
50 and above	%	1.31	2	4

²⁵ In 2022, the statistical dimension for the employment of the Group is the employees with labor contract at CanSino Biologics Inc. and its subsidiaries within the scope of the consolidated financial statements.

²⁶ In 2021, the statistical scope of employee related data covers the employees with labor contract at CanSino Biologics Inc.

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Female	%	51.6	49.41	/
Training hours per employee by gender ²⁸				
Male	hour	65.1	95.2	/
Female	hour	68.0	106.5	/
Percentage of employees trained by employment type				
Senior managers	%	1.28	0.96	/
Middle managers	%	12.31	10.69	/
Junior employees	%	86.41	88.35	/
Training hours per employee by employment type ²⁸				
Senior and middle managers	hour	51.5	66.1	/
Junior employees	hour	69.0	105.8	/
Supplier Management ²⁹				
Number of supplier by region				
Mainland China	supplier	1,197	2,052	/
Hong Kong, Macao, Taiwan	supplier	10	8	/
Overseas	supplier	62	75	/
Supplier's certification				
Supplier with quality management system certification (ISO 9001, etc.)	supplier	150	113	/
Supplier with environmental management system certification (ISO 14001, ISO 14064, etc.)	supplier	55	36	/
Supplier with health and safety management system certification (ISO 45001, etc.)	supplier	54	31	/
R&D and Innovation				
Investment in R&D	RMB '00 million	7.90	8.79	/
Patents granted	item	37	31	21
Anti-Corruption				
Anti-corruption training hour for all employees	hour per person	3.5	1	/
Anti-corruption training hour for board members and senior management	hour per person	1	1	/
Participation rate of anti-corruption training for board members	%	100	100	/
Cases of corruption-related litigation	case	0	0	/
Community Welfare				
Total amount of charitable donations	more than RMB '0,000	131	595	4

 $^{\rm 27}$ In 2022 and 2021, there were no active employees resigned from the Group's overseas operations.

²⁸ In 2022, the online and offline training data covers CanSino Biologics Inc., excluding EHS training data. Training hours per capita by position and gender do not include quality related training, therefore the training hours per capita are slightly less than the average training hours per employee. In 2021, the statistical scope of employee training included the online and offline training of employees at CanSino Biologics Inc. (excluding the data of EHS training). ²⁹ In 2022, CanSinoBIO modified the statistical dimension for suppliers to exclude some non procurement partners, resulting in a slight decrease in supplier

indicator data compared to 2021.

Definition

Term	Definition
HKEX	The Stock Exchange of Hong Kong Limited
Vaccine	An active immunity preparation for the prevention of infectious diseases, which is made of pathogenic microbes (such as bacteria, rickettsia, viruses, etc.) and their metabolites through detoxification, inactivation or genetic engineering
Antigen	Substances that can cause immune responses in humans and animals, which can not only produce antibodies and primed lymphocytes by stimulating the immune system to have specific immune responses but also combine and react with antibodies and primed lymphocytes. It is usually a protein, but polysaccharides and nucleic acids can also be used as antigens
Conjugate vaccines	The polysaccharide-protein conjugate vaccine was prepared by containing polysaccharides conjugated to the carrier protein by chemicals
mRNA vaccine	A vaccine which is based on the mRNA structure corresponding to antigen protein in the pathogen, transmitted to human cells through different transmission approaches and after translation, which can stimulate cells to produce antigen protein and produce specific immune responses
Ad5-nCoV	Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector), including two types of products, Convidecia and Ad5-nCoV for inhalation
Convidecia	Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for intramuscular injection, whose trade name is Convidecia®
Ad5-nCoV for inhalation	Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) for inhalation, whose trade name is Convidecia Air [®]
MCV	Meningococcal conjugate vaccine, used to prevent infection caused by meningococcal bacteria
MCV2	Groups A and C Meningococcal Polysaccharide Conjugate Vaccine (CRM197), whose trade name is Menphecia®
MCV4	Group ACYW135 Meningococcal Polysaccharide Conjugate Vaccine (CRM197), whose tradename is Menhycia®
NMPA	the National Medical Products Administration of China or, where the context so requires, its predecessor, the China Food and Drug Administration or CFDA
DPT	Pertussis, diphtheria, tetanus
DTcP	Diphtheria, tetanus and acellular pertussis (components) combined vaccine, adsorbed
GMP	Good Manufacturing Practice for short
EHS	Environment, Health and Safety for short
CRM197	The nontoxic variant of diphtheria toxin
Clinical trial	Systematic research on drugs in the human body, for example, patients or healthy volunteers, to confirm or reveal the effects, adverse reactions and/or absorption, distribution, metabolism, and excretion of experimental drugs, aiming to determine the effectiveness and safety of experimental drugs
HCP	Healthcare professionals
ICH	International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use
Sanofi Pasteur	Sanofi Pasteur Co., Ltd. is a multinational pharmaceutical company headquartered in France
Wyeth Pharmaceuticals or Wyeth	Wyeth Pharmaceuticals is a multinational pharmaceutical company headquartered in the US, which was acquired by Pfizer in 2009
AstraZeneca	AstraZeneca is a multinational pharmaceutical company headquartered in the UK

Reader's Feedback

Thank you for reading the 2022 Environmental, Social and Governance & Corporate Social Responsibility Report of CanSino Biologics Inc. We highly value your opinion to the Report. In order to improve the company's performance in the environment, society, and governance, we welcome your opinions and suggestions on the Report, so that we could further improve the Report.

1. Your overall o	comment on t	he Report				
Excellent	Good	Ordinary	□ Not good			
2. Your commer	nt on the read	ability of the Repor	t			
Excellent	Good	□ Ordinary	□ Not good			
3. Your commer	nt on the struc	ctural arrangement	of the Report			
Excellent	Good	Ordinary	□ Not good			
4. Does the con	tent disclosed	d in the Report fulfil	I your expectation?			
□ Yes	□ Yes □ No □ N					
5. Are CanSinol	5. Are CanSinoBIO's ESG performances fully reflected in the Repo					
Fully reflecte	ed	Partially reflected	d 🗌 Not rei			
6. If you have other opinions and suggestions on the 2022 Environ Responsibility Report of CanSino Biologics Inc., please kindly w						
	Fe	edback sheet of	2022 Environme			

Corporate Social Responsibility Report of CanSino Biologics Inc.

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