

MEDIA RELEASE

CDW Holding's biotechnology business is making strides in its antibody research

- **Latest antibody research targeting specific cancers has created antibodies with affinity improvements**
- **Further advances in antibody research will create higher affinity antibodies for antigens with the goal of completing efficacy tests on mice in 2025**
- **Aims to complete antibody library to enable more efficient antibody acquisition by the end of 2025**

Singapore 13 November 2024 – SGX Mainboard-listed CDW Holding Limited (hereinafter "CDW", "the Company" and together with its subsidiaries, the "Group") would like to provide an update about the progress of its antibody research under its biotechnology ("**Biotech**") business, which is part of its Life Sciences business.

Background

The development of the Group's Biotech business is an effort of the Group's diversification strategy and involves the following subsidiaries: A Biotech Co., Limited (hereinafter "**ABio**"), Tomoike Bio Limited (hereinafter "**TBI**"), and GSP Enterprise Inc. (hereinafter "**GSP**").

Under its Biotech business, the Group is working on the development of innovative antibodies that have a high future potential and a large target market through the subsidiaries. Currently, ABio is conducting research and development on antibody affinity improvements and completing its antibody library.

Improving Antibody Affinity

Antibodies, also called immunoglobulins, are proteins produced by the human body's immune system that are present in blood and body fluids which can identify and fight harmful foreign substances called antigens, which include microorganisms such as bacteria, fungi, parasites, and viruses.

Antibodies are produced by specialised white blood cells called B cells, which react to antigens and differentiate to produce various antibodies. Antibodies bind to antigens in various ways including interactions, and the binding strength is expressed as affinity. By binding to antigens, antibodies can neutralise them or identify infected cells, which are then destroyed by the body's white blood cells.

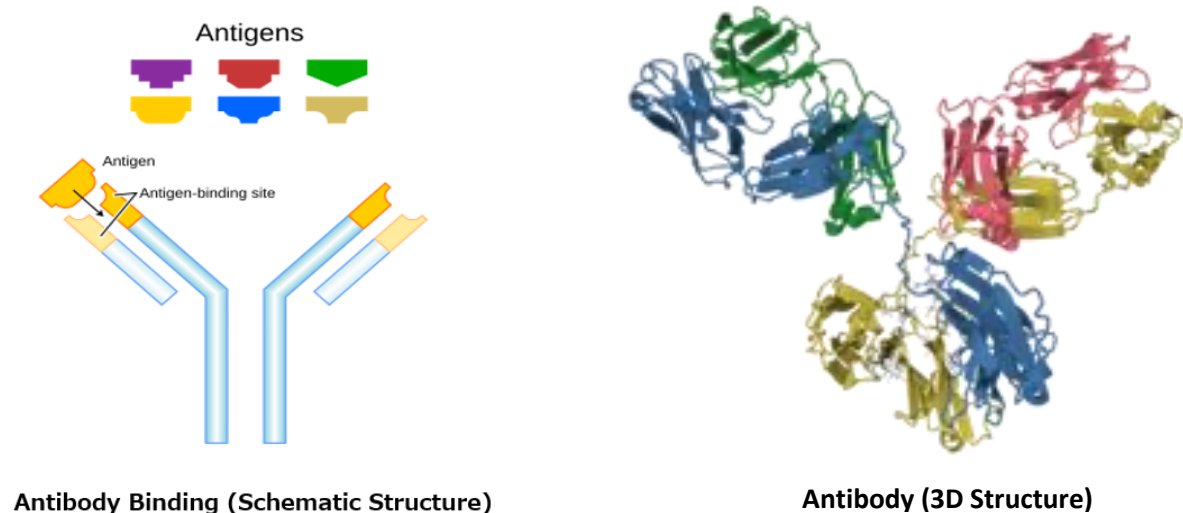


Figure 1 – Antibody Binding and 3D Structure

The variable region is the antibody binding part and is particularly important. Within the variable region, the region that directly contacts the antigen, called the complementarity determining region ("CDR"), is particularly variable.

CDRs are crucial for the diversity of antigen specificities generated by the body's immune cells (lymphocytes). Of the three types of CDRs (CDR1, CDR2, and CDR3), CDR3 is the most variable, which allows the antibody to recognise and react to a wider range of antigens.

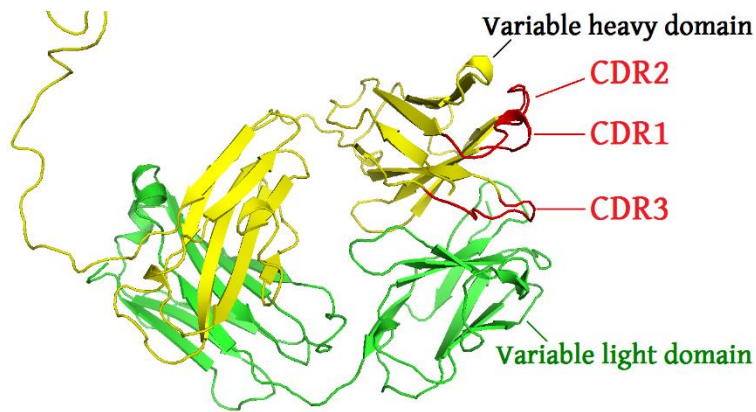


Figure 2: The three different types of CDRs

To increase the chances of developing successful drug therapies for various diseases, ABio has created antibodies with higher affinity by replacing the CDR3 sequences of antibodies that bind to specific types of cancer with highly homologous amino acids. By using antibodies with improved affinity, ABio aims to create antibody drug candidates targeting various types of cancers and to complete mice efficacy tests by the end of 2025.

The antibody therapy market was valued at US\$214.7 billion in 2022 and is expected to grow to US\$638.2 billion by 2032, at a compound annual growth rate (CAGR) of 11.8%¹. The industry has grown exponentially in recent years with the approval of new treatments and drugs. Similarly, the global oncology (cancer diagnosis and treatment) market size was more than US\$280 billion in 2022 and is expected to grow to US\$690 billion by 2032, at a CAGR of 9.7%². These potential markets represent a huge opportunity for the Group's Biotech business, which develops breakthrough antibodies.

Antibody Libraries

To identify antibodies that effectively target a specific antigen, scientists and drug developers must find the one that best binds to the antigen from billions of potential antibodies. This monumental task is made much easier and faster by antibody libraries, which are collections of antibodies with diverse binding capabilities. Antibody libraries include various kinds of genetically modified antibodies and are valuable tools in the discovery and development of new therapeutics. Antibody libraries have been

¹ <https://www.gminsights.com/industry-analysis/antibody-therapy-market>

² <https://www.gminsights.com/industry-analysis/oncology-market>

proven during the COVID-19 pandemic to be crucial, providing researchers with a blueprint for synthesising molecules that are currently being used in COVID-19 vaccines.

For antibody libraries to be effective, huge quantities of antibodies are required. Antibody screening and other methods are used to generate antibodies using bacteriophages ("Phages"). Phages are viruses that infect bacteria and reproduce within them, so they are often used in genetic research. The antibody library developed by GSP and used by ABio, is a human scFv-type antibody library ("Phage Display Type").

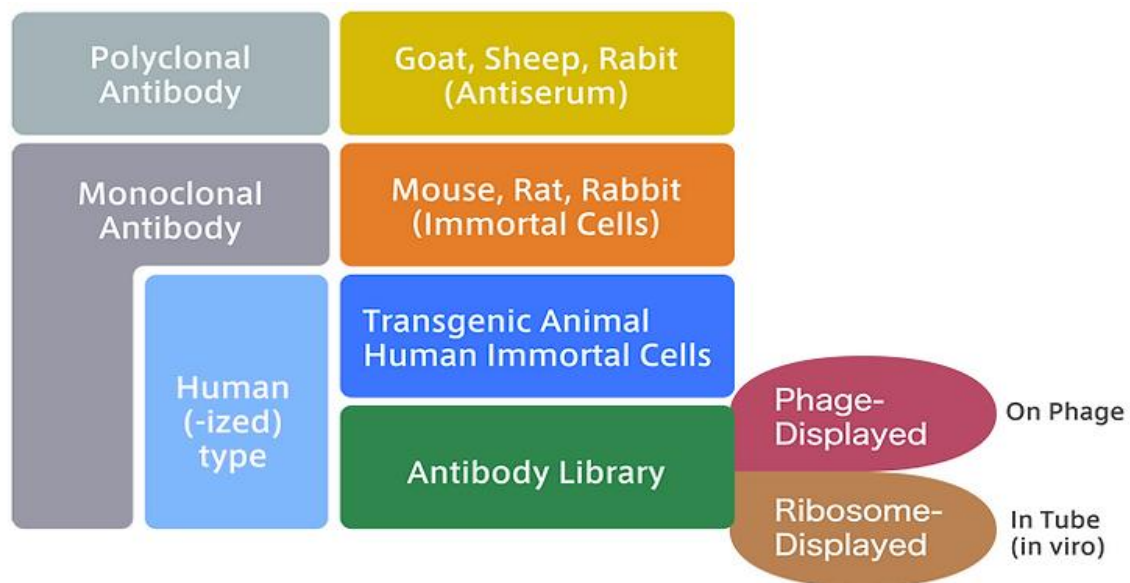


Figure 3 – Overview of GSP Antibody Library

Antibodies are produced by antibody screening, but to develop a useful antibody library requires modified antibodies with various kinds of gene sequences to be included. Theoretically, the number of types of antibody gene sequences in the antibody library developed by GSP is 10 to the power of 13 to 14, but in fact, due to liquid volume constraints, it is 10 to the power of 11 to 12 (which is said to be equivalent to the repertoire of antibodies produced by a human being in a lifetime) to be used for screening.

The ABio and GSP teams are currently aiming to enhance the antibody library by creating antibodies with higher affinity for various antigens including cancer by the end of 2025. Once completed, the antibody library will be used for ABio's own basic research and as an antibody production contract service for universities and external research institutions.

The global antibody library market is valued at US\$70 million in 2024 and is expected to grow to US\$90 million by 2028 at a CAGR of 2.6%³. This is also a significant market that has the potential to generate recurring and stable revenue for the Group.

Mr. KATO Tomonori, Chairman and Chief Executive Officer of the Group, said: "*We are pleased to see ABio and GSP making great progress in the development of their antibody technologies. We believe that our Biotech business is on the right path for strong future growth to help in our business diversification, and I look forward to further progress in this area.*"

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About CDW Holding Limited (www.cdw-holding.com.hk)

CDW Holding Limited (the "Company" and together with its subsidiaries, the "Group") is a Japanese-managed precision components specialist serving the global market focusing on the production and supply of niche precision components for digital instrument panels in the automobile industry, notebook computers, consumer and information technology equipment, office equipment and electrical appliances, and an original equipment manufacturer. The Group is headquartered in Hong Kong and has operations in Japan, China, South Korea, Thailand and the Philippines. The Company has been identifying new businesses to invest in with the potential for growth and entered as part of its diversification strategy and has made forays into the Life Sciences sector since 2016. The Company's aim for its Life Sciences business is to identify research-driven yet commercialisable projects that can have a positive impact on the quality of human life.

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³ <https://www.businessresearchinsights.com/market-reports/antibody-library-technologies-market-107842>