



October 20, 2025 SymBio Pharmaceuticals Limited Fuminori Yoshida Representative Director President and Chief Executive Officer (Securities Code: 4582)

# Patent Obtained for a Groundbreaking Immunoassay with Ultra-High Sensitivity (detection at one part in a trillion)

Tokyo, Japan, October 20, 2025 – SymBio Pharmaceuticals Limited (hereinafter "SymBio" or the "Company") today announces that, as a result of joint research with Nippon Steel Chemical & Material CO., LTD. (hereinafter "Nippon Steel C&M"; headquarters: Tokyo), both companies were granted a co-filed patent in Japan on October 9, 2025, for a highly sensitive yet simple, user-friendly immunoassay method (and an immunoassay device) aimed at viral infectious diseases. The patent was made public today.

This immunoassay combines Nippon Steel C&M's nano-composite microparticles (product name: ESCURE®) with the Company's proprietary high-sensitivity measurement method that enables quantification at very low viral concentrations. In evaluations using CRP antigens, we confirmed a detection sensitivity at single digit picograms per milliliter or lower (i.e., on the order of one part per trillion)—a level previously achievable only by PCR or similar methods. Building on this patented technology, the Company will advance development of an assay and devices that can rapidly and easily quantify viral antigens at the point of care. This will enable diagnosis in the initial stages of viral infection, which is currently difficult and is expected to be applicable to rapid diagnostics during outbreaks of viruses such as coronaviruses and influenza viruses.

Fuminori Yoshida, the Company's President and CEO, stated: "By harnessing our proprietary technology to detect viruses at the picogram-per-milliliter scale—roughly one trillion of a gram per milliliter—we are redefining what's possible in infectious disease management. This breakthrough will not only elevate the precision of diagnosis



communities worldwide."

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and treatment across various viral threats but will also catalyze new paradigms in public health, outbreak response, and personalized medicine. We envision a future where early, ultra-sensitive detection transforms outcomes and safeguards

Leveraging this patented technology, the Company plans to build businesses not only in healthcare but also in areas where virus damage is becoming increasingly serious, such as crop sectors, including seeds and vegetables and environmental monitoring. For global expansion based on this technology, the Company already submitted a Patent Cooperation Treaty (PCT) application jointly with Nippon Steel C&M on October 15, 2025, and the Company will proceed with overseas patent prosecutions while accelerating commercialization through partnerships with partners specialized in each sector.

This matter will have no material impact on the Company's financial outlook for the fiscal year ending December 2025.

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### Notes

## **Patent Summary**

Patent Number: 7756407

Title: Immunoassay Method and Immunoassay Device

Summary: First, a "sample containing the analyte (antigen)" is dropped onto a membrane region "permeated with nano-composite microparticles bearing antibodies on their surface." The analyte binds to the particles and migrates toward the test line. After a set time, light is irradiated through the test line that appears in the determination area on the membrane, and attenuation of the transmitted light is measured—constituting a novel immunoassay measurement method. Unlike conventional immunochromatographic test kits, which rely on light reflection or luminescence for qualitative judgment, this method can quantify virus levels even at concentrations too low to be visually assessed.

# Picogram-level detection sensitivity

"Pico" denotes 10 to the minus 12, while "nano" denotes 10 to the minus 9; thus, pico is 1,000 times smaller than nano. The difference between pico and nano reflects measurement precision. A detection sensitivity at the picogram level means the system can detect viruses at concentrations 1,000 times lower than those at the nanogram level. With conventional methods, real-time measurement at the point of care at picogram-level precision has been difficult. Our simple, user friendly method enables quantification of viral load in the initial stages of infection for earlier diagnosis, which can also help prevent severe disease.

#### About immunoassays

Immunoassays are immunological measurement methods that detect and quantify specific molecules such as pathogens by exploiting the specific binding between antigens and antibodies. They are widely used in clinical diagnostics, pharmaceuticals, and research.

## About nanocomposite microparticles

These are special nanocomposite particles in which nanometals (metal nanoparticles) are dispersed and integrated near the surface of latex particles using Nippon Steel C&M's proprietary techniques. They can be used in various immunoassays, including immunochromatographic formats.





# About PCT applications

A PCT application is an international patent application filed under the Patent Cooperation Treaty, which effectively reserves a filing date and provides an initial international assessment for potential patent protection in over 150 member countries. A PCT filing begins the process of securing patent rights overseas, with the aim of obtaining protection equivalent to the domestic patent.

## BCV Business Strategy Based on Three Therapeutic Pillars

Since acquiring the global license to BCV in September 2019, SymBio has been conducting collaborative research with world-class research institutions to unlock BCV's potential in three therapeutic areas. Currently, our management resources and development efforts are centered on three therapeutic pillars: (1) viral infections post-HSCT, (2) hematologic and solid tumors, and (3) neurodegenerative diseases. By expanding our business globally, we aim to maximize the business value of BCV.

This immunoassay technology is expected to be widely useful for early diagnosis and for monitoring disease progression in all of the three therapeutic areas. An accurate and faster measurement of viral load in patients is required for early diagnosis leading to more effective treatment strategies and planning. The high sensitivity immunoassay is expected to contribute to the ongoing development of BCV for treating the various diseases.