

# GenScript Luncheon Seminar

**Speaker: Dr. Edward Wong**

**Presentation Title:**  
**Antibody engineering: A tool for a better therapeutic antibody to treat the diseases.**

**Speaker Bio:**

Dr. Edward Wong is the product manager in GenScript. He completed his Ph.D. degree from University of Adelaide. He worked as a Post Doctoral fellow at National Cancer Centre Singapore for 3 years and he had successfully reported the predictive factors for genetic screening of BRCA1 and BRCA2. He also reported the importance of genetic testing for 25 breast cancer- predisposition genes using NGS technology. Both of his works were reported in PlosOne and npj Genomic Medicine.



*Dr. Edward Wong, PhD  
Product Manager  
GenScript*

**Abstract:**

Antibodies play a major role in supporting the life sciences from different aspects, including the use of antibody in detection assay and diagnostic tests or for therapeutic purposes. In fact, the use of antibody for therapeutic purpose can be tracked back to three decades ago since the approval of the first monoclonal antibody by the United States Food and Drug Administration (US FDA) in 1986. With the advent of advanced technology, we can now reach the targets that previously known as “undruggable” due to the availability of high diversity of antibodies. Nonetheless, to find the right candidates among the high diversity of antibodies can be laborious and time-consuming. Furthermore, the researcher would have experienced a number of challenges, including the missing out on good binders, poor antibody library coverage, throughout the discovery and development workflow.

Several attempts have been made to address these challenges. Among these attempts, the affinity maturation is an important strategy in antibody optimization to generate safe and efficacious second-generation therapeutics. The recent development of synthetic biology provides the breakthrough that allow the researchers to precisely define and control the synthesis of high-diversity domain libraries. The optimization process usually requires several rounds of the mutant library construction and screening in order to isolate the top ideal candidate. The benefit of identifying the improved antibody, in a higher specificity and affinity, can help to enhance a higher success rate in the clinic while reducing in cost to the patient due to a smaller and infrequent dosing.

In this presentation, we are going to discuss:

- A) How we can rapidly identify and validate a diverse repertoire of high-affinity antibodies?
- B) How we can further improve the binding affinity of the antibody while reducing the screening burden during the optimization process?

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<https://www.genscript.com>.

**Please note that lunch will be served after the seminar.**

**Tuesday, 24<sup>th</sup> May, 2022 11am**  
**CELS Auditorium, Centre of Life Science, 28 Medical Drive,**  
**Singapore 117456**

**Register at: <https://qrs.ly/s1dq0eb>**

