Bioprocessing Technology Institute
BTI

Recombinant Antigen Protein Displaying Model on Virus Like Particles

Dr Noorhamizah Suhaimi
Research Scientist, AS&T (Protein Analytics)
Bioprocessing Technology Institute, A*STAR

23 Feb 2023, 4.00pm
Host: Dr Deepak Choudhury

Seminar Abstract

Vaccine development approaches comprise of a subunit vaccine, DNA vaccine, or virus like particles (VLPs). VLPs are self-assembling proteins with high ordered monotonous structures. Interestingly, VLPs could be used as carriers for specific antigens, epitopes, or drugs displayed on their surfaces, as well as nucleic acids encapsulated inside VLPs to achieve *in vivo* expression of antigen proteins of interest. Potential recombinant antigens proteins are screened before being displayed on the VLPs, depending on the targeted ligand or receptor of interest. Chemical binding between two peptides or amino acid residues, such as strong affinity or covalent amino bonds, has also received a lot of attention for VLPs display. The SpyTag-SpyCatcher intermolecular coupling domain was obtained by the formation of the amide bond and releasing of water between the carboxyl group (Asp, Glu) and amine group (Lys). Originally, the antigen and VLPs nanoparticles are created separately and then combined to form a plug-and-display model on VLPs.

About the Speaker

Hamizah Suhaimi is currently a research scientist from AS&T Protein analytics, A*STAR. She received her PhD in Bioscience from Shizuoka University in Japan . Before joining A*STAR, she was a postdoctoral scholar at the University of Kebangsaan Malaysia (UKM) and a member of the national team grant in developing SARS-CoV-2 vaccine platforms. Since 2016, she has been working on recombinant antigen protein expression and characterization for display model candidates on the envelope and non-envelope viral protein. Following up on her previous research interests, she is currently working on determining the potency attributes of recombinant Adeno Associated Virus.

To register - Please click on the “Accept button” in the Calendar Invitation