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ASIA EDITION

# Delonix Bioworks and A*STAR Infectious Diseases Labs partner to develop OMV vaccine candidates against Klebsiella pneumoniae

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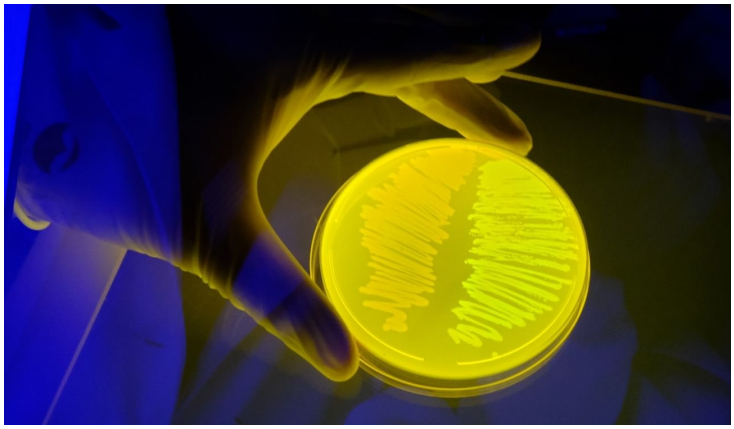
**Partnership marks an important milestone in Delonix's global strategy to build collaborative networks that accelerate the translation of next-generation bacterial vaccines**



Delonix Bioworks, a China-based clinical-stage biotechnology startup pioneering next-generation outer membrane vesicle (OMV) vaccines, has entered into a Research Collaboration Agreement with A*STAR Infectious Diseases Labs (A*STAR IDL), a research institute under Singapore's Agency for Science, Technology and Research (A*STAR).

The collaboration aims to discover and develop novel OMV-based vaccine candidates targeting *Klebsiella pneumoniae* (*K. pneumoniae*). By combining Delonix's proprietary pathogenic bacterial genome editing and OMV Plus™ platforms with A*STAR IDL's strong capabilities in translational infectious disease research, clinical relevant bacterial isolates, and immunological evaluation, the collaboration also strengthens Singapore's capabilities to translate infectious disease research towards potential interventions against antimicrobial-resistant pathogens.

*K. pneumoniae* is a leading cause of life-threatening pneumonia, bloodstream infections, and sepsis, posing severe risks to vulnerable patient populations. The World Health Organization (WHO) has classified carbapenem-resistant Enterobacterales, including *K. pneumoniae*, as critical-priority pathogens due to high levels of multi-drug resistance against standard clinical therapies.

Despite the significant public health burden, there are currently no licensed vaccines available for *K. pneumoniae*. Traditional vaccine approaches have been hindered by the pathogen's extensive genetic diversity, thick capsular polysaccharides that mask conserved surface antigens, and high antigenic variation across hypervirulent and multidrug-resistant clinical lineages. Delonix's engineered OMV approach offers a differentiated solution to overcome these barriers. By precisely editing the bacterial genome to modulate capsular interference, detoxify endotoxins, and enrich conserved native antigens on non-replicating vesicles, engineered OMVs has the potential to elicit potent innate and adaptive immune responses capable of broad cross-strain protection.