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Singapore's A*STAR & BD to advance flow cytometry analysis for immunology research

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To advance health discoveries that will benefit Singapore and beyond



Becton Dickinson (BD) Holdings, a global leader in life science technologies, and the Agency for Science, Technology and Research (A*STAR), Singapore's lead public sector R&D agency, have announced an extended research partnership that will focus on deep immunophenotyping of human tissues using spectral flow cytometry panels to bring forth discoveries that can be translated into positive healthcare outcomes.

In a previous partnership between the A*STAR Singapore Immunology Network (A*STAR SIgN) and BD signed in 2016, a whole leukocyte panel comprising 35 markers with 26 fluorophores was generated using the sentinel approach. This partnership validated BD Biosciences' prototype reagents and expanded the scope of biological data that could be acquired via flow cytometry. This successfully led to fast tracking of other high-parameter flow cytometry panels that have been used to investigate responses to immuno-therapy, as well as the human immune response to COVID-19. With this previous partnership as a basis, the research team aims to expand the possible panel size up to 43 markers without using the sentinel approach by utilising specialised cell analyser equipment from BD.

Through this collaboration, the research team aims to achieve the highest quality in the acquisition of single cell biological data acquired in the space of high dimensional polychromatic flow cytometry panels while also making the data analysis significantly easier with a lower barrier of entry and know-how required. These panels will serve as a foundation to build other related flow panels, reduce the development time required to create new high dimensional spectral panels, as well as improve the consistency and reproducibility of the flow cytometry data for A*STAR SIgN and the research ecosystem.