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Singapore Immunology Network's clinical immunomonitoring platform for the assessment of immune responses in cohort studies and clinical trials

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The clinical immunomonitoring platform at the Singapore Immunology Network (SiGN) is dedicated to defining immunomarkers and immunological endpoints with clinically relevant impact via high-throughput acquisition of immunological data from cohort studies and clinical trials. The platform leverages on the scientific expertise of principal investigators (PI) supported by a suite of capabilities including the following facilities: flow cytometry/FACS/luminex, CyTOF, immunogenomics, and a comprehensive bioinformatics team. The platform may be involved from the initial stage of study design to sample processing, bio-banking, assay running and ultimately, downstream analysis. The complex datasets generated from the measurement of immune and clinical parameters are integrated into the translational data warehousing system, TranSMART, analyzed using well-established pipelines and interpreter. The platform has a well-defined workflow and project management infrastructure, which is capable of engaging all phases of research from early discovery all the way through to the assessment of phase IV clinical trials. The platform's capabilities can be exploited to yield outcomes spanning diverse applications including biomarker discovery, novel target identification, technology development and the assessment of vaccine clinical trials. Examples of current clinical trials and studies conducted by the platform will be briefly discussed which include: (1) the assessment of responsiveness to flu vaccination in the elderly; (2) The longitudinal assessment of dengue natural infection vs. dengue vaccination; and (3) the assessment of tumor antigen-specific CTLs in syngeneic tumor models.

Biography

Brian Abel received his PhD in 2006 from the ETH, Zurich, and Post-doctoral studies from SATVI, University of Cape Town, where he worked on the immunological assessment of a novel TB vaccine in clinical trials and contributed to TB biomarker discovery. He completed an MBA from Tel Aviv University and ISB, Hyderabad, to facilitate a transition from academia into translational roles in Biomedical Science. He joined SiGN in 2012 to manage the immunomonitoring platform, conducting business development, project management and supporting finalization of agreements with industry partners, as well as acquiring regulatory approval for clinical research. In 2016, he became the Head of the Immunogenomics Core to support and drive genomic activities for SiGN's researchers and facilitate collaborations with industry partners.

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