In July 2003, following on the heels of the severe acute respiratory syndrome (SARS) epidemic (the first potentially pandemic disease in the 21st century), the *Research Fund for the Control of Infectious Diseases* (RFCID) was established. Its aim was to support research in emerging and potentially emerging infectious diseases.

On the fifth anniversary of the establishment of the RFCID, we are delighted to present this edition featuring 10 research projects related to SARS that the fund has supported. The reports cover the SARS-coronavirus (SARS-CoV) structure and function, immunological aspects of SARS infection, as well as strategies for its treatment and prevention. Several projects are worth highlighting due to their significant findings and their potential impact on the control, treatment, and prevention of SARS.

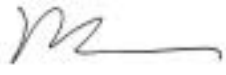
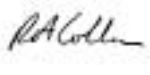
The SARS-CoV genes X1-X5 encode five small (>50 amino acid residue) non-structural accessory proteins, ie proteins that accompany and assist another viral protein which has a primary function. Ho[1] investigated the effects of these accessory proteins on cell proliferation and survival responses in infected ovary- and kidney-derived model cell lines in vitro. In the astonishing pace of SARS research post-2003, the primary functions of three of these proteins (X1, X2, and X4) were published by other groups ahead of this report. Ho therefore concentrated on X3 and X5 (also known as SARS 6 and 8b). Apart from characterising some specific activities of these proteins, the study produced a number of useful reagents for further studies. For example, expression of vectors for all five proteins and stably expressing cell lines were produced, as were fluorescently tagged accessory proteins. This eliminated the need for antibodies to these (then) rare proteins and aided their detection in localisation studies.

One of the major challenges following the SARS outbreak was to produce effective candidate vaccine as soon as possible. Cheung et al[2] used bioinformatic analysis to identify a novel HLA-A*0201 restricted epitope of the SARS-CoV N-protein that binds with high affinity to human major histocompatibility complex class I in T2 cells, and activates cytotoxic T lymphocytes in human peripheral blood mononuclear cells. The novel immunogenic N-protein peptide produced in this study should provide valuable information for designing therapeutic SARS vaccines, capable of inducing a cytotoxic T-cell response.

Vaccine-related studies were keenly supported by the RFCID in the immediate post-SARS period. Zheng et al[3] constructed and evaluated an inactivated, protein-based vaccine and rAAV live vaccines as potentially viable methods to prevent SARS. All of the vaccine candidates were tested in appropriate mouse models (via intranasal and intramuscular routes) and relevant clinical indices of efficacy were evaluated. Potent and sustained humoral and cytotoxic T-lymphocyte responses were observed; the intranasal route was more effective than intramuscular injection. The investigators concluded that inactivated vaccine candidates have the potential to be developed into safe and effective interventions to prevent SARS-CoV infection.

We hope you find this selection of dissemination reports informative and enjoyable. These dissemination reports and the corresponding full project reports may be downloaded individually from the Research Fund Secretariat website (**http://www.fhb.gov.hk/grants**), where more information about the funds, including application procedures, can also be found.

Supplement co-editors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