Developing Designer Antibodies

Research Theme: **Cancer Biology**

PhD Research Project Title: **Developing Designer Antibodies**

Scholarship category (Please indicate the source of funding for this project):

(a) SBS Research Student Scholarship (for SBS faculty only)

Principal Investigator/Supervisor: **Kanaga Sabapathy**

Co-supervisor/ Collaborator(s) (if any): **NA**

Project Description

a) Background:
Missense mutations are commonly found in cancers. Many of these are driver mutations, and if inhibited, could provide an avenue for cancer therapy. However, such mutation-specific reagents are currently unavailable. Our lab has previously demonstrated that the generation of mutation-specific antibodies are possible, using mutant p53 as an example. In this project, we will evaluate if such designer antibodies can be generated against other intracellular mutant antigens that are common in cancers.

b) Proposed work:
The work will begin with designing and evaluating a series of antigens to elicit a mutation-specific antibody response to selected cancer antigens. Traditional monoclonal antibody generation and phage-display techniques will be used. The antibodies will be characterized for their specificity and efficacy, as well as for potential diagnostic and therapeutic use. You will be using mouse models. Please contact the supervisor for more details as the project involves unpublished confidential material.

c) Preferred skills:
Cell culture, biochemistry techniques, molecular cloning, mouse handling, antibody generation (though not all are indispensable). Knowledge in Immunology and phage-display is desirable.

Supervisor contact:

If you have questions regarding this project, please email the Principal Investigator:

Prof Kanaga Sabapathy
kanaga.sabapathy@ntu.edu.sg

SBS contact and how to apply:

Associate Chair-Biological Sciences (Graduate Studies) : AC-SBS-GS@ntu.edu.sg
Please apply at the following:

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

School of Biological Sciences
College of Science

Reg. No. 200604393R

Application portal:
https://venus.wis.ntu.edu.sg/GOAL/OnlineApplicationModule/frmOnlineApplication.ASPX

60 Nanyang Drive, Singapore 637551