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The ubiquitous three-fingered fold: from toxins to receptors

The three-fingered fold is a simple motif of about 60-70 amino acids, with four conserved disulphides and three adjacent loops rich in ß-pleated sheet. Discovered more than thirty years ago as a typical structure for snake neurotoxins, this motif has since been found in a large variety of proteins including proteins of the immune system, regulators of neuronal transmission in the brain, markers of tumours and receptors. Though it has been studied for many years, this fold has yet to yield its secrets regarding a variety of fundamental features. It is still unclear, for instance, how the three-fingered fold acquires its characteristic architecture. We also have yet to elucidate the molecular basis of its capacity to display so many different functions. Notably, does a particular region of the three-fingered fold specifically display all the functional sites? We may also ask whether one biological function derives evolutionarily from another, and if so how? These questions have been addressed using a variety of toxins and will be tentatively answered during the seminar.

Department of Biological Sciences

Seminar Announcement

Date:	Friday Nov 15, 2002
Venue:	LT 32
Time:	4 - 5 pm
Host:	A/P R M Kini

All are welcome

Designed by Yong Ann Nee, Dept of Biological Sciences, NUS