

Seminar

Designing peptide/protein-based inhibitor to stop red blood cell invasion by malaria parasites

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Protein-protein interactions (PPIs) play a crucial role in most of the physiological processes. Identifying the interacting interfaces of a disease related PPI and targeting those interfaces with a peptide or small protein is a highly promising strategy for the development of an effective inhibitor. As a therapeutic, a peptide or small protein is more favourable than a small molecule due to their high specificity and low toxicity. Unlike antibody, peptide-based inhibitors are cost effective and do not demand any cold chain supply. Besides, the flexibility to conformationally modify a peptide/small protein, either by introducing additional structural restrains or by making them in D-amino acid form, makes them metabolically inert as well as less-immunogenic. We have explored rational design of various peptides or small proteins to inhibit key protein-protein interactions responsible for malaria parasite entry into human red blood cells utilising the combination of 'chemical protein synthesis' and 'mirror image phase display' technique.

Thursday, Jul 13th 2023

11:30 AM (Tea / Coffee 11.15 AM)

Auditorium, TIFR-H