



NUS
National University
of Singapore

Department of Biological Sciences
Seminar Announcement

Sequence/Structure/Function Relationships for Self-Assembly of Human Elastin Polypeptides

The process of ordered assembly of elastin into its extracellular, polymeric form remains one of the least well-understood steps in the biosynthesis of elastin. Our laboratory has shown that relatively small polypeptides modeled after sequences present in elastin and containing both hydrophobic and crosslinking domains not only have the ability to self-aggregate through a coacervation mechanism, but also to self-organize into polymeric structures with physical properties similar to those of native elastin. We have used a series of small, recombinant polypeptides based on sequences of human elastin to investigate the roles of various hydrophobic domains in promoting self-assembly of these polypeptides. Our results demonstrate that the propensity for self-assembly of these polypeptides not only is related to the size and number of hydrophobic domains they contain, but also is dependent on the context of these domains within the polypeptide and on their specific sequence characteristics. Understanding the basis of the self-organizational ability of elastin-based polypeptides may provide important clues for the general design of self-assembling biomaterials with useful mechanical properties.

Dr. Fred. W. Keeley

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Date: Friday Nov 22, 2002

Venue: LT 32

Time: 4 - 5 pm

Host: Prof Hew Choy Leong

All are welcome