

Elastin

as a Model for Self-Assembling Polymeric Matrix Proteins

Elastin is the major extracellular matrix protein of large arteries, imparting characteristics of extensibility and elastic recoil. Elastin consists of approximately 36 domains with alternating hydrophobic and crosslinking character. It has been suggested that the hydrophobic domains, predominantly containing glycine, proline, leucine and valine often in tandemly repeated sequences, are important for the alignment of monomeric elastin for polymerization. Our data shows that small recombinantly expressed polypeptides based on sequences of human elastin contain sufficient information to self-organize into fibrillar structures containing lysine-derived crosslinks. These polypeptides can also be fabricated into membrane structures with solubility and mechanical properties similar to those of native insoluble elastin. These results strongly support the view that, independent of the influences of other factors, monomers of elastin themselves possess an intrinsic ability to organize into polymeric structures and to form matrices with elastomeric properties.

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Date: Friday Nov 8, 2002
Venue: LT 32
Time: 4 - 5 pm
Host: Prof Hew Choy Leong

All are welcome

