Stem Loop II RNA-binding Peptides Selection by Phage Display

Yan Fan and Anne M. Baranger

Display of peptides and proteins on filamentous M13 phage (phage display) is an *in vitro* selection technique that enables polypeptides with desired properties to be extracted from a large collection of variants (panning). A gene of interest is fused to that of a phage coat protein, resulting in phage particles that display the encoded protein and contain its gene, providing a direct link between phenotype and genotype. It has evolved into a powerful technology for identifying polypeptides with novel properties and altering the properties of existing ones. In the current studies, a phage display was performed to select peptide ligands targeting a stem loop II RNA which was immobilized on a solid phase. A significant enrichment was observed after a few pannings, indicating certain members of the designed libraries with desired properties have high binding affinity to the target RNA.