S05-1 Novel high through-put system for pharmaceutical projects - Integration and combination of molecular display and combinatorial bioengineering

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As the yeast display system allows active enzymes with various sizes and forms to be displayed, it is expected that a combination with crystallization and computerized modeling will facilitate combinatorial analysis of the structure-function relationship. The possibility of creating completely novel and functional proteins from random DNA alignments has been demonstrated. With molecular display and high-throughput systems, novel methods of proteome analysis and protein-library construction have been also developed, and have a wide range of applications in renovation of improvement of protein functions and discovery of new functional proteins and ligands for pharmaceutical uses.