

Applications of Phage Display Library System for Pharmaceutical Proteomics

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In recent biomedical researches after the human genome sequencing, the disease proteomics is one of most expected approaches, which performs intensive searching for disease-related proteins altered in expression on the initiation and progression of diseases and effective mining of novel drug-seeds or drug-targets. From the pharmaceutical view point, the most important issue to be solved in such a disease proteomics approach is how to select the important molecules useful for therapeutics or clinical diagnosis within hundreds or thousands of disease-related proteins and how to apply the selected molecules for medicines or diagnostic tools. Especially, it comes to be important to develop the technologies which are useful for analyzing the systemic and subcellular behaviors of disease-related proteins and revealing their roles in disease pathogenesis. To achieve these, we are now engaged in development of the phage display system of naïve antibody library and its application for functional analysis and molecular imaging of the proteins. In this symposium, I will introduce our recent work and view of phage display technology for molecular imaging research in future.