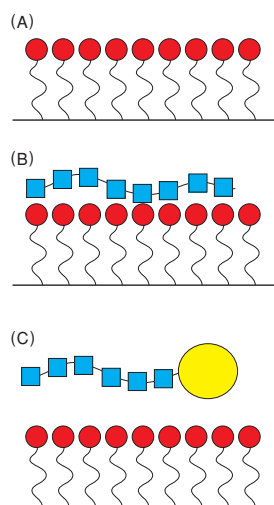


Preparation Method of an Enzyme-Immobilized Membrane

We have found a quite easy preparation method for immobilizing enzymes for several years ago, method by using polyion complex membrane. For improving thickness of the polyion complex membrane, a new immobilizing method was found; polyglutamate-enzyme complex was prepared and the complex was immobilized on a cysteamine-modified gold electrode by means of the electrostatic attraction. Comparing the oxidation current responses to glucose with the two electrodes which used the complex or unmodified enzyme, it was found that the complex was fully immobilized on the modified gold surface. The immobilization method could be used for the biochip such as biosensors with high-integration.



Schematic illustrations of method for immobilizing polyglutamate-enzyme complex. (A) Cysteamine modified gold electrode is prepared easily. (B) Polyglutamate could be attached on the modified electrode, since the electrostatic attraction was occurred between amino groups (red circles) at cysteamine and carboxyl groups (blue rectangles) at glutamate. (C) Polyglutamate-enzyme complex could also be immobilized on the modified gold

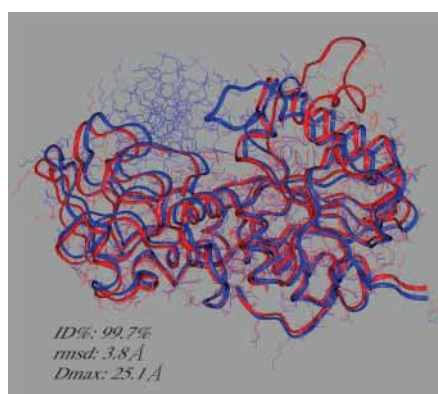
Soichi YABUKI
 Research Institute of
 Biological Resources
 e-mail:
 s.yabuki@aist.go.jp
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PDB-REPRDB: A Database of Representative Protein Chains from the Protein Data Bank (PDB)

The criteria used to select the representative protein chains are: a) quality of atomic coordinate data, b) sequence uniqueness, and c) conformation uniqueness. The system of PDB-REPRDB is designed so that the user may obtain a quick selection of the representatives according to the priorities specified oneself.

The structural library for protein secondary structure prediction and the data for our PAPIA (Parallel Protein Information Analysis) system were chosen from PDB using the system. And this will be useful for detecting local structure diversity between homologous proteins.

The system is available at the PAPIA WWW server (<http://www.cbrc.jp/papia/>).



An example of a protein structure change by DNA binding. The superimposed a monomer (1HMY) and a complex of HhaI DNA Methyltransferase (6MHTA) and DNA are shown as a red and blue ribbon, respectively

Tamotsu NOGUCHI
 Computational Biology
 Research Center
 e-mail: noguchi-
 tamotsu@aist.go.jp
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