

Transfection microarray for genome-wide gene validation

Cell Informatics Research Group of Research Institute for Cell Engineering has developed a novel DNA microarray for multiple gene transfection. We found a method to significantly increase the on-chip transfection efficiency. Real-time and multiple gene transfection assays are performed on the microarrays under the variable tissue culture conditions. The newly developed microarrays are applied to analyze intracellular signaling pathways.

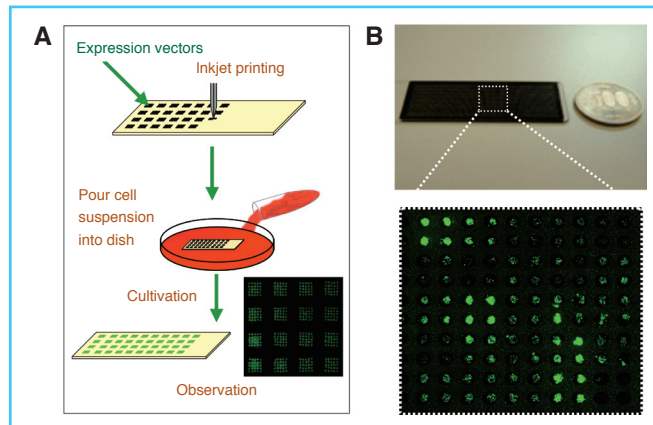


Figure : Scheme of transfection microarray experiments. (A) Outline of the procedure. (B) An example of the transfection microarray format. HEK 293 cell line was transfected.

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Metrology and Measurement Technology

Rulers with nanometer-size scale

Development of thin and multilayer film standard materials

We have been developing a traceable X-ray reflectometer (T-XRR) which keeps traceability to the national standard by using an angle standard. Thickness of thin SiO₂ and GaAs/AlAs multilayer films will be certified by the T-XRR. These certified standard materials are expected to be reference standard materials, and will be rulers with nanometer-size scale.

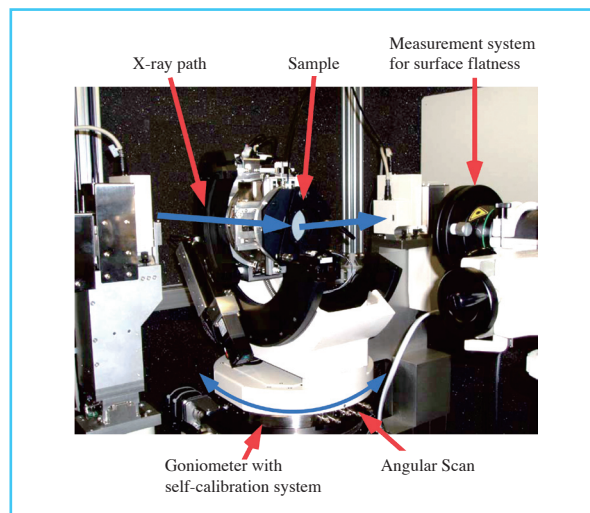


Figure : Traceable X-ray reflectometer system

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