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Evaluation of RAR binding activity materials in plant with yeast two hybrid assay

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Retinoic acid is used for prevention and treatment of arteriosclerosis and leukemia. Retinoic acid which is RAR binding activity material induces new alveolar formation in emphysematous animal models, and it is reported to almost return the elasticity shrinkage of the lung to the normal. However, Serious ADR such as the teratogenicity is known to the use of the retinoic acid, and the use includes a limit. Therefore the search of the new RAR binding activity material which is useful as a therapeutic drug without the side effects is desirable. In a previous study, we investigated azolla [*Azolla cristata* × *filiculoides*] of the aquatic fern plant which showed RAR binding activity.

Red and green leaves of azolla were extracted with methanol for one week, respectively. The methanol extract was treated with organic solvents, and the extracts examined RAR binding activity. Remarkable activity was separated over silica gel column chromatography.

Yeast two-hybrid assay is bioassay technique to use the recombination yeast which introduced a fusion protein of GAL4 DNA binding domain (GAL4 DBD) of ligand binding domain (LBD) of nuclear receptors such as sex hormone or the thyroid hormone. The yeast two-hybrid assay method which we used in this study was carried out by the method that improved a traditional approach in our laboratory.

Biography

Shoko Mukai is a graduate student of Kinki University, Department of Applied Biological Chemistry. She studies isolation and bioanalytical technique under Associate Professor Sawabe.

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