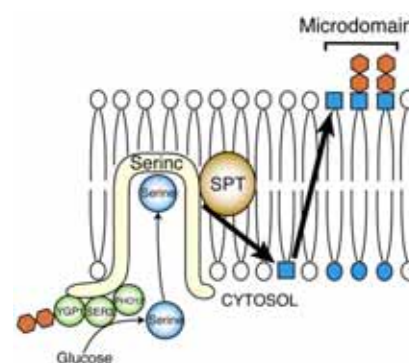


NAME & FACULTY		TITLE			
Tatsuya Ingi Department of Neurophysiology Brain Research Institute		Serinc family as a target in development of anti-tumor drugs, tumor markers, and antitumor vaccines.			
FIELD	IT	NANO	BIO · LIFE	ENVIRO · ENERGY	OTHERS

ABSTRACT Cancers are often characterized by the presence of tumor-associated glycosphingolipid (GSL) antigens on their membrane surface. In cell membranes, GSL molecules self-associate into microaggregates (called microdomains) that plays a key role in the oncogenic transformation and the metastasis of cancer cells.

In the present study, we report a novel protein family, termed Serinc1-5, that incorporates a polar amino acid serine into membranes and facilitates the synthesis of a serine-derived lipid, GSL. Some of the family members were reported to be differentially expressed in malignant tumors. Since Serinc proteins are membrane proteins that contain eleven transmembrane domains like a transporter protein, they are likely to be ideal target for development of novel anti-cancer agents (monoclonal antibodies, protein-binding inhibitors, and recombinant DNAs). Tumor-associated GSL antigens are also a target in immunotherapy of tumors. The membranes of Serinc cDNA-induced cells may mimic the surface of cancer cells and be used as strong immunogens, which provide effective way to develop antitumor vaccines and tumor markers.



Flow Chart for Strategic Partnership University-Industry-Government to be Developed

