



Biography of Professor Yoshitaka Nagai



Professor Yoshitaka Nagai was born in Japan in 1931 and at present is the director of the Mitsubishi Kagaku Institute of Life Science in Tokyo. He did all of his undergraduate and graduate work at the University of Tokyo. After receiving his M.S. degree in 1956 and the Ph.D. degree in 1963 in Biochemistry, he received D.Med.Sc. in Neuroimmunology in 1977 at the University of Tokyo. He joined the Department of Cell Biology at the University of Tokyo in 1968 as an Associate Professor. He was chairman of the Biochemistry Department at the Tokyo Metropolitan Institute of Gerontology between 1974–79. After serving as a chief and professor in the Department of Pathobiochemical Cell Research at the Tokyo University between 1979–83, he was appointed Chairman of the Department of Biochemistry at the Tokyo University in 1982 and continued there until 1991. Dr. Nagai went back to the Tokyo Metropolitan Institute of Medical Science as its director in 1991 and remained there until 1995 when he assumed the directorship position at the Mitsubishi Kagaku Institute of Life Sciences where he is at present. He was Director General of the Frontier Research Program of the Institute of Physical and Chemical Research (RIKEN) and is still advising that Institute for its research and development of unique new programs.

Dr. Nagai focused increasingly on the biological functions of glycolipids such as sulfoglycolipids which enhanced respiration of spermatozoa of sea urchin. The respiration-activating effect of sulfated glycolipids led Dr. Nagai to discover in 1982 the respiratory burst effect of sulfatide (galactosylceramide-3'-sulfate) on polymorphonuclear leukocytes. He developed a new preparative column chromatographic system for brain gangliosides. Using this new technique he obtained highly homogeneous preparations of different molecular species of higher chain ganglioside GQ1b, which promoted neurite outgrowth in cultured human neuro-blastoma cell line. In 1988 Professor Nagai's laboratory first recognized an ecto-type protein kinase involvement in the cell signaling and the involvement of multisialosylgangliosides (such as GQ1b) in that process. Involvement of multisialosylgangliosides in the process of cell signaling and apoptosis is in the limelight today and Professor Nagai's laboratory has popularized that theme for last two decades. His group has pioneered the isolation and function studies with higher gangliosides over the last three decades and has published over 300 papers and articles in well-reputed journals around world.

During the last four decades, Professor Nagai has given invited lectures in almost all the Glycoconjugate Conferences around world: Nobel Symposia-1983 and 1992; International Glycoconjugate Symposia-XIIIth in Jerusalem-1995, XVIth in the Hague-2001; International Cell Surface Macromolecules (ICSM-I to IV)-1987-96 in New Delhi; International Biochemical Congress-in Jerusalem-1990 and in New Delhi-1994. He has been an invited speaker at the Sphingolipid Metabolism and Function Gordon Conference since its inception in early '90s.

Professor Nagai is a member of the editorial boards and several Journals and organizations such as the Japanese Biochemical Journal and the famous Mizutani Foundation. He was an elected president of the Japanese Biochemical Society in 1987–88 and is an active member of other International Societies around the world.