

Obituary—Lars Svennerholm

Pam Fredman

Inst. of Clinical Neuroscience, Exp. Neuroscience Section, SU/Molndal

A pioneer in neurochemistry and particularly in the field of glycolipids, Professor emeritus Lars Svennerholm died February 26th 2001 at the age of 75 years after a short illness. He was born in Eskilstuna and studied medicine at Uppsala University, where he also started his research career together with Gunnar Blix. Together with Blix he discovered the presence of galactosamine in gangliosides and submaxillary mucin. In this study, sialic acid, at that time a partially characterized molecule, was described for the first time. Later, Lars Svennerholm made large contributions to methodological developments of great significance in the glycosphingolipid field. Independently of Kuhn and Wiegandt, he described the core sugar sequence of gangliosides. His nomenclature for gangliosides received worldwide acceptance and is still in use today.

He was appointed as Reader in Physical Chemistry in 1952 and received his PhD in 1957 at the University of Göteborg. In Göteborg he took the initiative to start the subject field *Neurochemistry*, in which he was professor and chief physician throughout his professional life. He was a man of great ability who combined basic and clinical research, which led to several milestones in the field. With eminent research, a strong personality and untiring energy, he came to play a central role in the development of the then new field of *neurochemistry*, not only in Sweden but also in the international arena. He was a member of the “Problem Commission on Neurochemistry”, which was created in 1959 with the objective of creating a focus for neurochemical research. They organized the first symposium on neurochemistry in 1961 with the title “Brain Lipids, lipoproteins and the Leucodystrophies”. This title reflects that neurochemistry started out with a focus on lipids and the leucodystrophies. Lars Svennerholm also made major contributions in the field of inherited lipidoses and he was one of the initiators of the European Study Group of Lysosomal Diseases (ESGLD). The discoveries regarding Tay-Sachs disease earned him the Jahres Prize in 1987. Another clinical aspect in which he had a great interest was dementia, and in particular Alzheimer’s disease.

During Lars Svennerholm’s career he was interested in gangliosides in various other fields, including their role as receptors for cholera toxin. In collaboration with Jan Holmgren in the 1970s, he showed that cholera toxin binds to gangliosides and also that this ganglioside was a functional receptor. This discovery led to the development of new methods for diagnoses of cholera and other infections based



*To whom correspondence should be addressed: Pam Fredman, SE431 80 Molndal, Sweden, Tel.: (46) 31 3432411, Fax.: (46) 31 3432426.

on binding to gangliosides. During the 1980s gangliosides came into focus in cancer research and Lars Svennerholm and his collaborators contributed to the discovery of tumor-associated gangliosides. This was also a major topic of a Nobel symposium on gangliosides, which he organized in 1992.

Lars Svennerholm was a man of strong character and he not only contributed to scientific developments, but also introduced and inspired many young scientists to enter the field of neurochemistry. A great scientist is deceased and those of us who have had the privilege to meet and work with him will remember him with admiration.