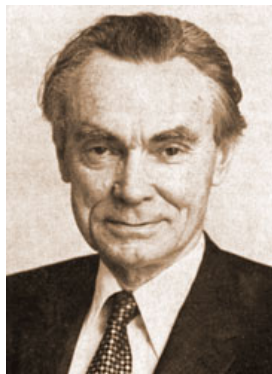




Sune Bergström



Stockholm, Sweden, 10 Jan. 1916 - 15 Aug. 2004

Nomination 14 Dec. 1985

Field Human Biology and Medical Sciences

Title Emeritus Professor at the Karolinska Institute

Commemoration – The Swedish biochemist Sune Bergström was awarded the Nobel Prize for Medicine and Physiology in 1982 together with Bengt I. Samuelson and John R. Vane, for 'their isolation, identification and analysis of prostaglandins'. Prostaglandins are biochemical compounds that influence blood pressure, body temperature, allergic and inflammatory reactions and other physiological phenomena in mammals. Sune Bergström was the first to demonstrate that prostaglandins were produced in different forms, to determine their chemical nature and to decipher the biosynthetic pathways producing them. For this pioneer work in the identification of what can be considered as new hormones, produced by a number of cells in the body, Bergström is often called the 'father' of prostaglandins. These compounds can have both positive and negative effects on the body. His discoveries opened a very active avenue of investigations on the metabolism of unsaturated fatty acids and led to the development of new drugs that counteract some of the effects of prostaglandins. Sune Bergström was born in 1916 in Stockholm. He received his scientific education at the Karolinska Institute in Stockholm where he was awarded doctoral degrees in Medicine and Biochemistry in 1944. He held research fellowships at Columbia University and at the University of Basel. He then returned to Sweden and became Professor of Chemistry at the University of Lund. In 1958, Bergström returned to the Karolinska Institute, and became Dean of the Medical Faculty in 1963 and Rector in 1969. After retiring from teaching in 1981, he continued to conduct research. He was chairman of the Nobel Foundation (1975-1987) and chairman of Medical Research at the World Health Organization (from 1977 to 1982). Sune Bergström was deeply involved in health problems in developing countries in which prostaglandins and related drugs can be used to relieve suffering from tropical diseases, nutrition and birth control problems. Sune Bergström passed away on August 15, 2004 and the world lost an outstanding scientist as well as an eminent humanist.

Nicole M. Le Douarin

Most important awards, prizes and academies

Academies: Royal Swedish Academy of Sciences, Stockholm (1965); Swedish Academy of Engineering Sciences, Stockholm (1965); American Academy of Arts and Sciences, Boston, MA (1965); National Academy of Sciences, Washington, DC (1973); USSR Academy of Sciences, Moscow (1976); USSR Medical Academy, Moscow (1982). *Awards:* The Albert Lasker Basic Medical Research Award, New York (1977); The Robert A. Welch Award in Chemistry, Houston, TX (1980); Nobel Laureate in Physiology or Medicine, Stockholm (1982).

Summary of scientific research

His thesis (1943) was concerned with the mechanism of cholesterol oxidation. From 1947-58 he was Professor of Medical Chemistry at the University of Lund, when extensive work was done on elucidating the mechanism of cholesterol degradation to bile acids and their further metabolism as well as the mechanism of intestinal fat absorption. During the last twenty-five years his main work was the isolation and structure determination of the prostaglandins - hormonal bioregulators that are found in all types of cells and are involved in the control of blood pressure, kidney function, motility and protection of the gastrointestinal tract and every aspect of the reproductive process as well as in certain neural and brain functions and such general reactions as inflammation.

Main publications

Bergström, S., 'Ueber die Wirkungsgruppe des Heparins', *Naturwiss.*, 23, p. 706 (1935); Bergström, S., 'On the oxidation of cholesterol and other unsaturated sterols in colloidal aqueous solution by molecular oxygen', *Arkiv. K.M.G.*, 16A, p. 10 (1942); Theorell, Bergström, S. and Åkesson, 'On the combination of the peroxidase protein with various hemins', *Arkiv K.M.G.*, 16A, p. 13 (1942); Bergström, S., 'On the oxidation of linoleic acid with lipoxidase', *Arkiv K.M.G.*, 21A, p. 15 (1945); Arvidsson, Eliasson, Hammarsten, Reichard, Ubbisch and Bergström, S., 'Orotic acid as a precursor of pyrimidines in the rat', *J.B.C.*, 179, p. 169 (1949); Bergström, S. and Danielsson, 'The regulation of the bile acid production in the liver', *Acta Physiol. Scand.*, 43, p. 1 (1958); Gustafson, Bergström, S., Lindsted and Norman, 'On the turnover and nature of fecal bile acids in germ free and infected rats fed cholic acid-24- ¹⁴C', *Proc. Soc. Exptl. Biol. Med.*, 94, p. 467 (1957); Bergström, S. and Sjövall, 'The isolation of prostaglandin F from sheep prostate glands', *Acta Chem. Scand.*, 14, p. 1693 (1960); Bergström, S., Ryhage, Samuelsson, Sjövall, 'The structures of prostaglandin E₁, F₁ and F₁', *J. Biol. Chem.*, 238, p. 3555 (1963); Bergström, S., Danielsson and Samuelsson, 'The enzymatic formation of prostaglandin E₂ from arachidonic acid', *Biochim. Biophys. Acta*, 90, p. 207 (1964); Bergström, S., Carlson and Weeks, 'The prostaglandins – A family of biologically active lipids', *Pharm. Review*, 20, pp. 1-48 (1968).