

<https://helda.helsinki.fi>

---

In memoriam : Christian Ehnholm

Jauhiainen, Matti

2020-12

---

Jauhiainen , M & Olkkonen , V M 2020 , ' In memoriam : Christian Ehnholm ' ,  
Atherosclerosis , vol. 315 , pp. 148-149 . <https://doi.org/10.1016/j.atherosclerosis.2020.11.011>

---

<http://hdl.handle.net/10138/341355>

<https://doi.org/10.1016/j.atherosclerosis.2020.11.011>

---

cc\_by\_nc\_nd

draft

---

*Downloaded from Helda, University of Helsinki institutional repository.*

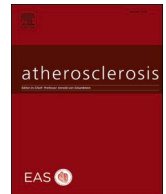
*This is an electronic reprint of the original article.*

*This reprint may differ from the original in pagination and typographic detail.*

*Please cite the original version.*

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## Atherosclerosis

journal homepage: [www.elsevier.com/locate/atherosclerosis](https://www.elsevier.com/locate/atherosclerosis)

## In memoriam: Christian Ehnholm



It is with sadness that we share the news of the death of Professor Christian "Enis" Ehnholm, after a short sickness, on 7th September 2020 in Grankulla, Finland.

Prof. Ehnholm received his medical degree at the University of Helsinki in 1966 and finished his Ph.D. thesis in 1970. He worked at the University of Helsinki, the Department of Serology and Bacteriology, as a Researcher in 1965–1971. During this time, he was among the first to purify, quantify and resolve protein and carbohydrate composition of Lipoprotein(a) from human plasma in collaboration with Kåre Berg, Kai Simons, Henrik Garoff and Ossi Renkonen. Throughout the coming years his main research interest was in cardiovascular diseases, with emphasis on plasma lipids and lipoprotein metabolism. He visited Cornell University, Ithaca in 1971–1972 as a NIH Fellow and worked in the group of Prof. Donald B. Zilversmit. During this visit, he developed an immunological technique to study phospholipid exchange between sensitized and non-sensitized liposomes. Exchange of various phospholipids and cholesterol between liposomes was further studied using purified phospholipid exchange protein. During 1972–1973 he worked again as a NIH fellow at the University of California, San Diego, La Jolla, together with W. Virgil Brown, Daniel Steinberg, Andre Bensadoun and Heiner Greten. This period resulted in lipoprotein lipase (LPL) purification from pig adipose tissue, as well as purification from human plasma of a heparin-released lipase with activity against triglyceride and phospholipids. After his return to Finland, he worked as a senior scientist of the Academy of Finland in 1974–1977 and continued a successful LPL research together with Esko Nikkilä, Marja-Riitta Taskinen, Jussi Hutunen and Paavo Kinnunen.

In 1977 Ehnholm joined the National Public Health Institute as Head of the Department of Forensic Science and later as head of the Department of Biochemistry. In 1982 he spent a year as a visiting scientist at the Gladstone Foundation Laboratories in San Francisco in the laboratory of Robert Mahley. In Gladstone he investigated the role of apoE in the lipolytic conversion of  $\beta$ -VLDL to LDL in type III

hyperlipoproteinemia, and in addition identified and characterized a novel electrophoretic variant called apoE1. He continued apoE research in Finland and published several reports on its role in human lipoprotein metabolism and its association with disease. One cornerstone observation was made together with Antero Kesäniemi and Tatu Miettinen, demonstrating that intestinal cholesterol absorption efficiency in humans is strongly related to apoE phenotype. Along with apoE studies, Ehnholm published several papers on apoA-I, apoA-IV and apoB-100 polymorphism and their relevance in lipoprotein metabolism. In the 1980s he was firmly linked to studies on the effects of dietary fats on CVD in the North-Karelia project headed by Pekka Puska. In 1987–1988 he continued his research as a visiting professor at the Baker Medical Research Institute, Melbourne, and in 1998–1999 at the University of Adelaide, Australia, in the laboratory of Phil Barter and Kerry-Anne Rye. Later, he went back to work with Barter and Rye at the Heart Research Institute, Sydney (2004–2005). Since the early 1990s Ehnholm started to investigate plasma phospholipid transfer protein (PLTP) together with Matti Jauhiainen and Vesa Olkkonen. Several papers were orchestrated on PLTP structure/function and its role in lipoprotein, especially HDL metabolism, not only in human subjects but also in pig and mouse models. Productive collaboration in these studies was achieved with Arie van Tol, Miranda van Eck, Phil Barter and Kerry-Anne Rye. In addition to PLTP, he collaborated in Vesa Olkkonen's project targeted to understand the structure and function of OSBP – related proteins. Ehnholm also had a long-lasting collaboration with Prof Marja-Riitta Taskinen, their study areas including topics such as familial combined hyperlipidemia, HDL metabolism, LPL and hepatic lipase (HL) function. In addition to basic research, he participated actively in several clinical trials and studies including the European Atherosclerosis Research Study (EARS) I-II, Diabetes Atherosclerosis Intervention Study (DAIS), EUFAM (European Multicenter Study on Familial Dyslipidemias in Patients with Premature Coronary Heart Disease) and most recently the FIELD (Fenofibrate Intervention and Event Lowering in Diabetes) study, a randomized controlled trial where the effect of long-term fenofibrate therapy on CVD events in subjects with type 2 diabetes was investigated. Ehnholm's last research interest was devoted to angiopoietin-like 3 and 4 (ANGPTL) studies to shed light on their role in lipoprotein metabolism. His scientific production includes more than 470 original publications in peer-reviewed international scientific journals and books. He served on the editorial board of a number of journals in the atherosclerosis field.

Ehnholm was one of the Founders of the European Atherosclerosis Society (EAS) and the European Lipoprotein Club (ELC) and Member of the Executive Committee of the European Atherosclerosis Society (1996–1999) and a Board Member of the International Atherosclerosis

<https://doi.org/10.1016/j.atherosclerosis.2020.11.011>

Society (2000–2002).

Ehnholm's character was special and his outspoken nature with simultaneous compassion enabled people to relate to him readily. His advice was invariably wise and often leavened by black-humorous puns. He was always willing to help solve any problem, scientific or other, by utilizing a pragmatic problem-solving approach.

Chris Ehnholm was an internationally renowned researcher in the field of cardiovascular diseases who made pioneering discoveries and authored over 470 scientific publications. We have lost a warm-hearted

research personality, who has left a legacy both nationally and internationally.

Matti Jauhiainen, Vesa M. Olkkonen\*  
*Minerva Foundation Institute for Medical Research, Helsinki, Finland*

\* Corresponding author.  
*E-mail address:* [vesa.olkkonen@helsinki.fi](mailto:vesa.olkkonen@helsinki.fi) (V.M. Olkkonen).