

Prof. Martin O. Bergö

- Professor (full) of Molecular Medicine, Karolinska Institutet (KI)
- Vice Chairman Committee for Research, Karolinska Institutet
- Member, Executive Board, Cancer Research KI (Chair, Research Working Group)
- Member, Board of Directors, Karolinska Comprehensive Cancer Center (OECl)
- Member, the Nobel Assembly at Karolinska Institutet



Dr. Bergo performs basic and translational research in the area of cancer and aging. His current research goals are: 1. To define the role of oxidative stress and antioxidants in cancer initiation, progression, and metastasis; and 2. exploring the biochemical and medical importance of the enzymes responsible for the posttranslational processing of prenylated CAAX proteins (e.g., K-RAS, RAC1, prelamin A) and to determine the role of these processing steps in the pathogenesis and treatment of RAS-induced cancer and prelamin A-induced accelerated aging syndromes (progeria). Dr. Bergo's group was the first to demonstrate that antioxidant supplementation of the diet markedly accelerates lung cancer and malignant melanoma metastasis (*Science Transl. Med.* 2014 and 2015; *Cell* 2019)—results which help explain the varying outcomes of clinical trials with antioxidants (e.g., the ATBC and SELECT trials). The group also identified a new mechanism that mediates lung cancer metastasis in humans and mice in the setting of low oxidative stress (i.e., in the presence of extra antioxidants), a mechanism which is coordinated by the redox-sensitive transcription factor BACH1. This information is also important for large proportions of populations world-wide who supplement their diet with antioxidants, partly motivated by the dogma that they protect against cancer. Dr. Bergo and colleagues also developed the first mouse models of Hutchinson-Gilford Progeria Syndrome and are now developing a potential new therapy for children with this disorder, which is based on pharmacologic targeting of the CAAX-methyltransferase ICMT (*PNAS* 2002, *JCI* 2006, *Science* 2014).

Dr. Bergo is Swedish, born in 1970, and has a background in chemistry and medicine. His PhD thesis was in the field of lipid metabolism in general and on the nutritional regulation of lipoprotein lipase in particular. He spent roughly five years as a postdoctoral fellow at the J. David Gladstone Institutes and the University of California, San Francisco before being recruited to start his own group at the University of Gothenburg. He received grants from the National Institutes of Health, the European Hematology Association, the European Research Council (ERC), and the Royal Swedish Academy of Sciences, and began studies on CAAX-protein processing which led to several serendipitous findings that prompted studies in diverse areas including cancer, aging, cardiomyopathy, cardiovascular disease, and rheumatoid arthritis. Dr. Bergo became associate professor (Docent) in 2005 and was appointed full professor in 2009. In 2015, Dr. Bergo was recruited from Gothenburg University to Karolinska Institutet. This recruitment allowed his group to expand, develop new collaborations, and focus more heavily on cancer biology.

Dr. Bergo has published around 100 articles and book chapters. He is elected permanent member of the Nobel Assembly and vice chairman for the Committee for Research at KI. He reviews for top international journals and often chairs international and national grant review committees. Dr. Bergo has broad contacts with society at large; often features in national and international media outlets, mostly regarding questions on dietary supplements and disease; and lectures 20–30 times/year on the same topic for nutritionists, dieticians, oncologists, pharmaceutical companies, and cancer patient organizations in the Nordic countries. He is also chairman of the board of Folkuniversitet west, an adult education platform whose mission is to provide life-long learning for all, as a complement to Universities.

(Last updated on December 15th, 2020)