



NSI Meeting Announcement

Date: Tuesday, May 23, 13:00 – 14:00

Venue: Rikshospitalet, Seminar room A3.3067

Guest lecture

by

Professor Geir Slupphaug

“DNA repair and acquired immunity”

Abstract

Recent research has revealed molecular interactions between the ancient DNA repair systems and the much younger acquired immune system. Thus, the classical base excision repair enzyme Uracil-DNA glycosylase encoded by the *UNG* gene is also involved somatic hypermutation and class switch recombination, yielding high-affinity antibodies. The latter processes are initiated by enzymatic deamination of cytosine to uracil at Ig loci in B-cells, catalysed by activation-induced deaminase (AID). Rather than undergoing normal repair, AID-induced uracil causes mutations in V-regions, and double-strand breaks and recombination at S-regions. Among several known uracil-DNA glycosylases, only UNG2 appears to be required for SHM and CSR, and thus UNG (as well as AID) deficiency leads to hyper-IgM (HIGM) syndrome. We have studied the molecular mechanisms underlying this specificity, and aim to elucidate how this may direct downstream recombinatorial processes instead of repair.

About the speaker

Dr Geir Slupphaug is currently a professor in molecular biology at the Faculty of Medicine, NTNU, Trondheim. He earned his PhD on molecular mechanisms of mammalian DNA repair from NTNU in 1993. Slupphaug worked on X-ray crystallographic studies of DNA-repair proteins at The Scripps Research Institute, CA, in 1995-96. He is presently focusing on the structural/functional interplay between DNA repair proteins. Professor Slupphaug is responsible for the protein Mass spectrometry laboratory at Faculty of Medicine, NTNU.

Welcome!



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