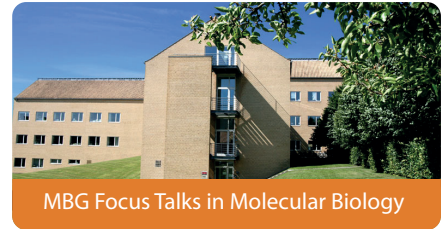


MBG FOCUS TALK

hosted by Erik Østergaard Jensen



Wednesday March 11, 2020 at 1:15 - 2:00 pm
iNano Auditorium (1593-012)

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The Emerging Gamma-secretase Interactome and its Implication in the Pathogenesis of Alzheimer's Disease

Gamma-secretase is an aspartyl protease that controls regulated intramembrane proteolysis of a growing list of single-pass type-I transmembrane proteins, including the amyloid precursor protein (APP) and the Notch-1 receptor. Importantly, gamma-secretase is responsible for the final step in the production of amyloid- β peptides ($A\beta$), the key causative agents of Alzheimer's disease (AD). Because an age-dependent dysregulation of its specific activity has pointed to the sporadic forms of AD, it remains critical to identify gamma-secretase modulators (i) to better understand the biological mechanisms that cause AD, and (ii) for the development of therapies to safely prevent and/or treat this neurodegenerative disorder. We investigated the gamma-secretase interactome and identified new endogenous modulators of APP processing and $A\beta$ production. Among these, some play an important role in spatial learning and memory, while quantitative and qualitative changes in their gene expression profiles were found in human brains from neuropathologically-verified AD cases.

Keywords: Gamma-secretase, intramembrane proteolysis, interactome, Alzheimer's disease, learning and memory.