ZENTRUM FÜR PHYSIOLOGIE
UND PHARMAKOLOGIE
MEDIZINISCHE UNIVERSITÄT WIEN
Institut für Pharmakologie

Impromptu

Colloquia in Cellular Signaling

Venue: Medical University Vienna, Center for Physiology and Pharmacology,
Institute of Pharmacology, Waehringerstrasse 13a, 1090 Vienna, "**Gr. HS Pharmakologie**"
(Helmut Kubista, Tel.: (01) 40160-31240, E-mail: helmut.kubista@meduniwien.ac.at)

Friday, 24.02.2023 **14:30 h** **Host: Thomas Stockner**

″ Apolipoprotein A-I origin and the function of ABCA1 in mouse adult-neurogenesis at the hippocampal dentate gyrus″

Maki TSUJITA
Junior Associate Professor
Department of Biochemistry
Nagoya City University
Graduate School of Medical Science
Mizuho-ku Nagoya 467-8601
Japan

Email: *mtsujita@med.nagoya-cu.ac.jp*
Website: *https://nrd.nagoya-cu.ac.jp/profile/en.b4387428f8d9e5fc.html?mode=pc*

Bild*: https://researchmap.jp/read0077772/avatar.jpg*

Abstract:

ApoA-I and ABCA1 are the most effective components to generate HDL in the plasma. ApoA-I has been identified in the human CSF even though no generation is detected in neuronal cells or glial cells. We generated the apoA-I floxed mice and discovered liver- and intestinal- apoA-I are the origin of apoA-I in mouse CSF. To reveal the further function of HDL in the brain, adult-neurogenesis of ABCA1-null mice was examined. F-ara-EdU was injected peritoneally and after 28 days of breeding, newly generated mature neuronal cells were labeled by Alexa-488 using the Click Chemistry method. Positive cells at the granular zone and the sub-granular zone were counted. In wild-type mice, 1.6 cells per DG slice. On the other hand, 0.44 positive cells per DG slice (P=0.0001 vs control WT mice) were detected in Abca1-null mice. Interestingly, The WT mice which exposed to 0.4 T of magnetic field (for 2 h) showed 0.47 positive cells per DG slice (P = 0.003). These results suggest the disruption of HDL generation by deletion of ABCA1 and by magnetic field affects adult neurogenesis in mice.