FOR 1336

Anti-Inflammatory Polarization of Microglia by ITIM-SHP1 Signalling

Funding Period:
from 2010 to 2016

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Project Description:
Microglial cells can be polarized towards a pro- or anti-inflammatory phenotype, either leading to neuronal damage or brain repair. Recent data show that the immunoreceptor tyrosine-based inhibition motif (ITIM)-SHP1 tyrosine phosphatase signaling cascade contributes to an anti-inflammatory phenotype of microglia. In this project we will use microglial cells derived from mouse embryonic and human induced pluripotent stem cells as well as conditional SHP1 knock-out mice to study the ITIM-SHP1 function in microglia. Furthermore, the role of the human immunoreceptor CD33 for microglial ITIM-SHP1 signalling will be investigated. Data will elucidate an important inhibitory signalling pathway of microglia and will help to understand the association between a polymorphism of the CD33 gene and Alzheimer's disease.

Reference: https://gepris.dfg.de/gepris/projekt/165157178