



Project A08 - Impact of dietary factors on the gut-CNS-axis –
implications for CNS autoimmunity

Subcluster: Environment

Project Summary: Research results support the view that nutrition and the gut microbiome are internal environmental factors associated with MS. In this project we want

- i. To investigate the potential of newly identified immune-modulatory nutritive factors, unsaturated fatty acids and ATIs
- ii. To identify new metabolites and species of the gut microbiome that impact MS

For this reason we will conduct small proof of concept trial using specific food additives in MS patients to investigate changes in peripheral immune cell subsets and the gut microbiome. Furthermore, we plan to investigate in more detail the changes in the gut – CNS axis by different dietary approaches in a spontaneous mouse model of Multiple Sclerosis. Here, we will study changes in the gut microbiome, intestinal immune responses as well as CNS local immune responses in order to elucidate the optimal time window for dietary interventions in the context of CNS autoimmunity and to unravel the underlying molecular mechanisms.

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