



Project A01 - The impact of nutrition and the gut microbiome in the pathogenesis of multiple sclerosis and its therapeutic implications

Subcluster: Environment

Project Summary: Nutrition and the gut microbiome can be regarded as an internal environmental factors associated with MS. In this project, we want to investigate the potential of newly identified immune-modulatory nutritive factors, i.e. short chain fatty acids (sodium propionate). In addition, we are aiming at identifying new metabolites and species of the gut microbiome that impact MS. To do so, we will conduct a proof of concept trial using sodium-propionate as a food additive in healthy controls and MS patients to investigate changes in T cell subsets and the gut microbiome. In addition we will transfer gut species potentially associated with sodium propionate and apply them in an EAE model to investigate their impact on disease course. Furthermore, the analysis of the metabolites from a fibre rich diet is supposed to show their immune-modulatory potential in EAE. Finally, the project will also test the immune modulatory metabolites derived from this kind of diet for human applicability

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