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BioMed X, Merck start new research program in autoimmune diseases

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The new project will focus on the role of the intestinal epithelial barrier in the development and exacerbation of autoimmune diseases such as systemic lupus erythematosus (SLE) and multiple sclerosis (MS)



BioMed X has announced the start of a new joint research group in collaboration with Merck. With this new group, BioMed X and Merck extend their ongoing collaboration to a total of six joint research projects at the BioMed X Innovation Center in Heidelberg, Germany. The new project will focus on the role of the intestinal epithelial barrier in the development and exacerbation of autoimmune diseases such as systemic lupus erythematosus (SLE) and multiple sclerosis (MS).

Loss of intestinal barrier function is correlated with several autoimmune diseases. The main objective of the new group supported by Merck is to understand the molecular mechanisms of the interactions between intestinal epithelial barrier and immune cells in autoimmune diseases, in particular the interactions between dendritic cells and intestinal enterocytes. Studies will involve the use of conventional and high-throughput metagenomics, generation of intestinal organoids from murine and human subjects, isolation of immune cells and establishing a three dimensional in-vitro co-culture model to observe interactions of the intestinal epithelial barrier with immune cells.

The goal of the project is to identify novel biomarkers and new therapeutic targets for the treatment of intestinal barrier loss to prevent the development and progression of autoimmune diseases.