



## Jacqueline Ratter-Rieck

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Jacqueline Ratter-Rieck is a biomedical scientist, currently working as a Postdoc in the research group Inflammation at the German Diabetes Center in Düsseldorf. She obtained her PhD at the Radboud University in Nijmegen, the Netherlands, and is mainly interested in the role of immunometabolism in diabetes. In addition, she is further elucidating the role of the adipokine omentin in the context of diabetes. Omentin is released by visceral adipose tissue and was positively associated with insulin sensitivity in several studies. The underlying mechanisms of action, however, are largely unknown. Although it has been described that omentin may increase insulin sensitivity and glucose uptake of adipocytes, effects on other insulin-sensitive tissues like liver and skeletal muscle are unexplored. In the awarded project, Jacqueline Ratter-Rieck therefore investigated the influence of omentin on differentiated human skeletal muscle myoblasts. Omentin increased basal, but not insulin-stimulated glucose uptake. In line with these results, omentin did not affect skeletal muscle insulin signaling, as assessed by phosphorylation of AKT and IRS1. Analysis of intracellular metabolites revealed that omentin decreased concentrations of certain phosphatidylcholines, ceramides and sphingomyelins, e.g. sphingomyelin C24:1 and C18:0. Overall, increased glucose uptake and decreased concentrations of lipids, which have been associated with insulin resistance, may contribute to the association of omentin with increased insulin sensitivity.