



Simon Dreher

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Hi everybody, my name is Dr. Simon I. Dreher and I started my career in Diabetes research only in 2021. After studying Molecular Cell Biology, Immunology and Parasitology and finishing my PhD on Cartilage Tissue Engineering from human bone marrow stem cells, I joined the Molecular Diabetology Lab of Prof. Weigert at the Institute for Clinical Chemistry and Pathobiochemistry (led by Prof. Peter) in Tübingen, Germany, which is also part of the Institute of Diabetes Research and Metabolic Diseases (IDM) (led by Prof. Birkenfeld), a Helmholtz Diabetes Center Institute, as a PostDoc. My main focus is combining my expertise in tissue engineering with my research interests in diabetes prevention to engineer more potent and functional human in vitro models. In the last 2 years I also successfully published 2 studies on the molecular function of the TGF- β /miR143/145 axis in low response to exercise (Dreher SI et al., *Cells*, 2021, DOI: 10.3390/cells10123443) and exercise/training adaptation of adipose tissue and skeletal muscle in matched human donors (Dreher SI et al., *Int J Obese (Lond)*, 2023, DOI: 10.1038/s41366-023-01271-y). In the latter we show that adipose tissue responded to exercise completely distinct from skeletal muscle in the same human subjects. Adipose tissue showed acute and repeated reduction in transcripts of lipid uptake, synthesis and storage. The data also suggest the restoration of a healthier circadian rhythm in adipose tissue of subjects with obesity after regularly performed exercise. The interconnection of circadian rhythm with lipid metabolism possibly contributes to improved metabolic health and prevention of diabetes. I am very honored and grateful that for my presentation of these data at the DDG Diabetes Kongress in 2022 in Berlin I receive the DZD Award for best scientific presentation.

