



“Exploring the roles of protein SUMOylation in health and neurodegeneration”

Speaker

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Time

Thursday, 2. November 2023
12 o'clock

Location

**Center for Biostructural Imaging of
Neurodegeneration (BIN)**
Von-Siebold-Straße 3a, 37075 Göttingen
Seminar Room

Abstract

SUMOylation consists of the covalent, post-translational addition of Small Ubiquitin-like Molecules (SUMO) to lysine residues on proteins. While this modification is undoubtedly important, the tools used to measure it have been limited. We will discuss recent advances in the generation of novel tools to measure protein SUMOylation in the naive mouse brain. Moreover, we will explore the dynamics of this modification under cell stress. Specifically, we will focus on the SUMO-modification of the ALS-linked protein TDP-43 and how this modification affects its capacity to resolve cellular stress. We will further explore how preventing TDP-43 SUMOylation in mice causes phenotypes reminiscent of ALS. In sum, this presentation will highlight the importance of SUMO protein modification in native and stress-inducing conditions.