Highly functionalized diaminocyclopentane inhibitors of protein-*O*-GlcNAcase

Patrick WEBER [1], Zuzana MÉSZÁROS [2], Pavla BOJAROVÁ [2], Tobias DORN [1], Manuel EBNER [1], , Natalia KULIK [2], Herwig PRASCH [1], Kristýna SLÁMOVÁ [2], Arnold E. STÜTZ [1], Martin THONHOFER [1], Tanja M. WRODNIGG [1], Vladimir KŘEN [2] [1]

[1] Institute of Chemistry and Technology of Biobased Systems, Graz University of Technology, AUSTRIA, [2] Laboratory of Biotransformations, Institute of Microbiology of the Czech Academy of Sciences, Czech Republic.

patrick.weber@tugraz.at

The progression of Alzheimer's disease is characterized by abnormal structure and accumulation of amyloid and tau proteins leading to cell death.[1] The formation of neurofibrillary tangles, which are toxic to neurons, is a consequence of hyperphosphorylation of the tau protein.[2] This pathological phosphorylation can be prevented by selective inhibition of *O*-GlcNAcase, which is already being tested in clinical trials.[3] In fact, current treatment options for neurodegenerative Alzheimer's disease are very limited and ineffective.[4]

In this presentation, the design, synthesis, and biological activities of a new type of selective *O*-GlcNAcase inhibitors based on the structural features of a highly functionalized diaminocyclopentane (**1**, Figure 1) will be presented.[5]

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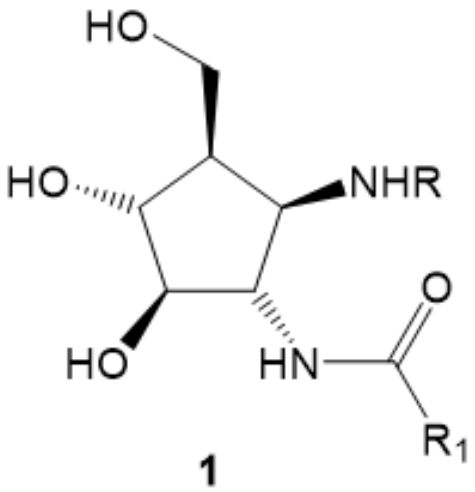

Figure 1. Diaminocyclopentanoid *O*-GlcNAcase inhibitors.

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