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International Conference on Pharmaceutical Chemistry September 05-07, 2016 Frankfurt, Germany

Synthesis, molecular docking study and *in vitro* biological activity of carbohydrate-based peptidomimetics targeting neuropilin-1

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 \mathbf{N} europilin-1 (NRP-1), a transmembrane receptor glycoprotein acting as a co-receptor of VEGF-A, is expressed by cancer and angiogenic endothelial cells and is involved in the angiogenesis process 1. Thus, targeting NRP-1 with small molecules, mimicking VEGF-A is a promising approach for anti-angiogenic therapies and also for targeting strategies. Taking advantage of functionalities and stereodiversities of sugar derivatives, the design and the synthesis of new carbohydrate based peptidomimetics were here decribed. One compound demonstrated inhibition of VEGF-A165 binding to NRP-1 (IC50 = 39 μ M). Biological evaluations were performed on human umbilical vein endothelial cells (HUVECs) through activation of downstream proteins (AKT and ERK phosphorylation), viability/proliferation assays and *in vitro* anti-angiogenic abilities.



Biography

Nadia Pellegrini Moïse is an Associate Professor at Université of Lorraine since 2005. She is an Organic Chemist. She is particularly involved in carbohydrate chemsitry, peptidomimetics design using a scaffolding approach and synthesis of polyazoted macrocycles as complexing agents for (radio)metals.

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