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Synthesis and functionality of multivalent glycocyclopeptides

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Synthetic glycoclusters and glycodendrimers have stimulated increasing interests over the past decade. Among the large variety of multivalent scaffolds reported so far, our group is focusing on cyclopeptide-based glycoconjugates for diverse biological applications. In this context, well-defined structures with various size, sugar density and combination have been prepared using either single or orthogonal chemoselective procedures (i.e. oxime ligation, Huisgen 1, 3-dipolar cycloaddition, thiol-ene coupling, thiol-chloroacetyl coupling). In this presentation, we will present the synthesis of several homo- and heterovalent glycocyclopeptides and their biological properties as nanomolar lectin ligands and antitumoral vaccines.

Biography

Olivier Renaudet received his PhD in 2002 in the field of Peptide and Carbohydrate Chemistry in the group of Professor P Dumy at the Université Joseph Fourier, Grenoble (France). Thereafter, he pursued Postdoctoral Research in the group of Professor J-L Reymond at the University of Bern (Switzerland). Then he returned to Grenoble to obtain an Assistant Professor (2004) and a full Professor position (2012) at the Department of Molecular Chemistry. He was awarded Junior Member at the Institut Universitaire de France in 2011 and ERC Consolidator Grant in 2014. He has published over 90 publications and has co-edited a themed issue on, "Multivalent scaffolds in glycoscience" published in the *Chemical Society Reviews* (RSC Publishing) in 2013. His current research activities focus on the development of multi-click approaches to synthesize multi-functional homo- and heteroglycoclusters as antitumoral synthetic vaccines, nanovectors or anti-pathogenic agents.

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