DEVELOPMENT OF NEW MULTIVALENT GLYCOCONJUGATES AGAINST INFLUENZA VIRUSES

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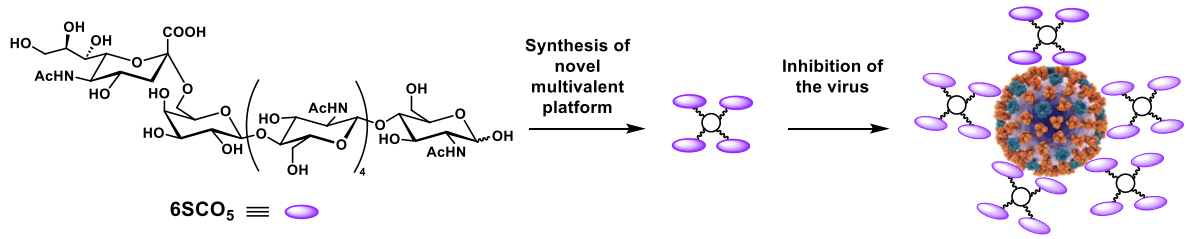
Oligosaccharides, present on the surface of human cells, play crucial biological roles as mediators of various cellular interactions [1]. In particular, they serve as entry points for different pathogens, which recognize them through specific surface proteins [2]. This is notably the case for influenza viruses, which cause human flu. The infection process is indeed triggered by the interaction between viral hemagglutinins and α-2,6-sialylated oligosaccharides covering our respiratory epithelial cells. Despite current ways of protecting against or treating influenza, between 290,000 and 650,000 deaths per year are recorded by the World Health Organization [3], highlighting the need to develop new therapies. In this context, we have discovered an oligosaccharide ($6SCO_5$) [4], capable of effectively blocking influenza viruses in an anti-adhesive therapy (*Scheme 1*). AIS biotech company has been founded to further develop and market a first drug candidate from these findings. Here, we report the advances in the design and biological evaluation of library of multivalent glycoclusters with varying valencies derived from $6SCO_5$.



Scheme 1. Strategy towards new anti-adhesive glycoclusters against Influenza viruses based on $6SCO_5$ oligosaccharide

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