

24th World Chemistry & Systems Biology Conference

&

4th International Conference on

Biochemistry & Metabolomics

October 03-04, 2018 | Los Angeles, USA

Synthetic assembly of bioactive compounds by means of our multivalently displaying technologies

Koji Matsuoka

Saitama University, Japan

Glycoproteins, glycolipids, and proteoglycans are known as glycoconjugates and these generally exist on cell surfaces. In biological events, the glycoconjugates play roles not only as carriers of information in cell-cell interactions but as markers of cellular differentiation, aging, and malignant alteration. The oligosaccharide chains of glycoconjugates are, therefore, the third chains of biomacromolecules next to nucleic acids and proteins and have highly complex structures. The affinity of a monomeric saccharide chain against the appropriate protein, such as a carbohydrate-binding protein, a lectin, and an enzyme, is not so high, usually in the mM range. In the 70's, Lee reported remarkable enhancement of the binding affinity by means of multivalent-type sugar substrates, so-called "sugar clustering effect". In this paper, we describe the design, synthesis, and biological evaluation of our recent glycoclusters.

Notes: