

Glycosciences and Glycomics

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Glycoconjugates such as glycoproteins, proteoglycans and various categories of lipids participate in significant biological events such as cell recognition, cell-cell interaction, inflammation, and disease progression. These substances are not the primary products of genes but the secondary products by the actions of the related enzymes regulated by genes. Therefore, the changes of glycoconjugates and lipids directly reflect the micro-environmental physiological conditions.

Recent development of physicochemical, biochemical and biological methods for glycomics and lipidomics enables to access hitherto unsolved important biological events that have been assumed to be regulated by these substances. After identification of numerous candidate glycans and lipids as markers, it is necessary to confirm usefulness of such markers by differential analysis of a number of

clinical samples. Unfortunately, their concentrations in clinical samples are extremely low in many cases.

It should be noticed that some glycoconjugates and lipids are commonly found in all the disease states, but others are found in specific diseases. The newly developed techniques on glycomics and lipidomics allow finding new important biomarkers for specific diseases. And the techniques will become also important to evaluate qualities of stem cells and iPS cells for regenerative medicine.

The Journal of Glycomics & Lipidomics aims development new technologies and applications for finding the biological phenomena and thereby confirming disease markers which have not been able to be identified based on the genome and protein technologies.

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