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Carbohydrate microarrays for study of glycan associated biological events

Glycans are involved in various physiological processes through interactions with proteins. Importantly, glycan-mediated biomolecular interactions play key roles in a number of pathological processes. Accordingly, details of glycan-protein interactions provide deep insights into the understanding of glycan-associated biological events at the molecular level. For rapid analysis of glycan-mediated recognition events, we have constructed carbohydrate microarrays that consist of diverse glycans densely attached to the solid surface in an orderly arrangement. The notable advantage of the carbohydrate microarray-based technology includes the simultaneous analysis of many glycan-protein interactions by using a small amount of carbohydrate samples. The prepared microarrays were incubated with proteins or cells to probe glycan-protein or glycan-cell interactions. We have showed that glycan microarrays are very powerful tools for studies glycan-mediated recognition events in a high-throughput manner. In this presentation, I will discuss the recent applications of glycan microarrays for functional glycomics research.

Biography

Injae Shin received his PhD in 1995 from University of Minnesota, USA. After his PhD, he moved to University of California, Berkeley, as a Post-doctoral fellow. In 1998, he was appointed as an Assistant Professor of Department of Chemistry at Yonsei University. Since 2010, he is the Director of National Creative Research Initiative Center for Biofunctional Molecules in the field of Chemical Biology. He has published more than 100 papers in reputed journals and has been serving as an Editorial Board Member of *Chemical Society Reviews, ChemBioChem* and *Molecular BioSystems.*

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