SEMINAR 2024

CIC biomaGUNE
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

Sonia Serna
Glycotechnology - CIC biomaGUNE

Microarrays in glycobiology research

Tuesday, 28th January
12.00 p.m.

CIC biomaGUNE - Seminar Room

Glycans are ubiquitous in living organisms and they are intricately linked to the developmental state of cells, encoding a wealth of information. Carbohydrate-recognizing proteins or lectins, act as interpreters of the sugar-encoded information. Glycobiology research plays a pivotal role in medicine and biomaterial research, investigating the structure and biological roles of glycans and lectins, that requires a multidisciplinary approach integrating knowledge from chemistry, bioanalysis and biology. Our approach to study lectin-carbohydrate interactions is based on the use of microarrays, as they offer several advantages over other methods. By arraying carbohydrates or lectins on a chip, a high-throughput screening method is created that allows the simultaneous analysis of interactions. Additionally, the arrays are miniaturized assays requiring only minute amounts of the biomolecules under study. Microarrays also offer a high sensitivity due to the high density generated during the immobilization. Typically, micrometer-sized spots containing immobilized biomolecules are probed with fluorescently labelled targets, either purified or in whole extracts. We have applied microarrays generated in the laboratory to answer different biomedical questions.