

## LECTINS AS BIOMARKERS

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Glycosylation has an important role in biological functions, including immune regulation, inflammation, cell-to-cell adhesion, and cell signaling. Saccharide moieties in cytoplasm and cell surface can be investigated using lectins as biomarkers since cell differentiation/dedifferentiation includes changes in glycode composition, distribution and expression in the cell surface glycoconjugates during development and disease. Histochemistry, cytochemistry, flow cytometry and chemiluminescence are techniques that have used lectins conjugated to many organic and inorganic compounds such as horseradish peroxidase, colloidal gold, fluorescein isothiocyanate, quantum dots and acridinium ester. Normal or transformed human (breast, prostate, brain, skin, stomach, intestine, liver, salivary glands) and animal model tissues; and microorganisms (fungi and bacteria) have been investigated regarding their carbohydrate identity in our lab. Our results have demonstrated that these ubiquitous (glyco)proteins are “*still*” promising biomarkers to help to elucidate the jigsaw puzzle hidden by cell carbohydrates of glycoconjugates.

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