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Letter to the Editor

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Specific Binding and Epitope Recognition in Lectin subtypes

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In hereby congratulate Dr.Şeftalioğlu et al for their work on lectins, on their report of binding of HPL-GC to dog gastric mucin (1) emphasizing the applications of protein and lipid glycosylation which once was considered as a topic whose appeal is restricted to a limited number of analytical biochemistry experts.

However, I would like to mention some points for meticulous planning of their future research, as well as drawing attention to variations of specificity in commercial molecular conjugates, on occasion.

Lectins comprise a structurally very diverse class of proteins characterized by their ability to bind carbohydrates with considerable specificity(2). An epitope, though commonly refers to antigenic determinants could be described in general protein-ligand interaction terms, as an operational definition of a surface area either directly responsible for, or intimately involved in specific molecular interaction(3). Determination of specificity of binding and revelation of binding sites or motifs requires advanced chemical modification or mutational techniques supported by affinity testing which could be done by employing labeling, as an example (4).When talking of a specific epitope, description and evidences should be at molecular level which must have been already described by the supplier (Sigma, UK) as the authors have mentioned as source of HPL-GC.

Moreover as a control for specific recognition in vivo the authors heve mentioned using "non-labeled" lectin which obviously wouldn't result in any image. Thus the selection of the internal experimental control is improper for the purpose. Besides no(+) control has been included in the experiment so that the reader could depict the laid stain actually designates N. Acetyl galactosamine (NAG) residues. This could be done by a number of ways among which I could mention using labeled MoAbs that have been shown to recognize NAG residues(5), or O-glycosidase (eg. Boehringer-Mannheim) treatment of the sections to eliminate NAG to distort the molecular integrity to end-up with a change in staining properies which would be significant as the folding properites of molecules could vary in vivo(6).

Traditionally the discussion of an article should contain self-criticism of the obtained data in comparison to relevant research rather than general information from some research in the field. I would suggest, the best reasonable conclusion to depict from the laid data could be HPL-GC stains dog gastric mucosa better than derivations about specific molecular recognition of epitopes. I wish further success with the upcoming studies.

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