Mediators of Inflammation

Hindawi

Special Issue on

Lectins and Their Ligands in Inflammation Mediated Diseases

CALL FOR PAPERS

Lectins are sugar binding proteins originally discovered in plants. However, many endogenous mammalian proteins share the same properties and represent a large group of protein families including the selectins, galectins, siglecs, mannose-binding lectins, and other carbohydrate binding proteins. On the other hand, endogenous lectin ligands are complex glycoconjugates, including glycoproteins and glycolipids, where specific sugars play the role of epitopes: typical examples are the selectin ligands sialyl-Lewis a and sialyl-Lewis x tetrasaccharides, the galectin ligand β-galactose, and the siglec ligand sialic acid. Moreover, the type of oligosaccharide chain bearing the epitopes and the nature of the carrier molecule modulate the binding properties and affect recognition by such molecules that in turn are indicated as the counterreceptors. Lectins play a pivotal role in many types of inflammation processes. The first case reported involves the selectins, which are responsible for leucocyte homing (L-selectin), neutrophil rolling on vascular endothelium (E-selectin), and platelet activation (P-selectin). More recently, galectins were found to regulate inflammasome activation in various diseases such as primary biliary cirrhosis, diabetic nephropathy, glomerulonephritis, and vascular heart diseases. Siglecs were found to act as immunomodulators involved in airway inflammation, infections, and autoimmune diseases.

We invite investigators to contribute original research articles as well as review articles that seek to address all aspects of the inflammation process mediated by lectin recognition. They include expression and structure of lectin counterreceptors, mechanisms and modulation of sugar binding to lectins, role in etiopathology, and potential therapeutic use of lectin recognition in systemic and autoimmune diseases or in inflammatory disorders affecting specific organs or tissues.

Potential topics include but are not limited to the following:

- Selectins and selectin ligands in cystic fibrosis and other inflammatory diseases
- Glycosylation defects and inflammation
- Galectin in vascular damage, kidney inflammation, and cardiotoxicity
- Sulfatides, ceramides, and sphingolipids affecting lectin-binding
- Lectins in complement and innate immunity
- Sialic acid binding and siglec expression in subtypes of immune cells involved in self-recognition
- Mechanisms regulating recognition of carbohydrates by proteins

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/mi/llim/.

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