



## Carbohydrate Recognition in the Immune System

Guest Editors:

**Dr. Julie Bouckaert**

Unité de Glycobiologie  
Structurale et Fonctionnelle  
(UGSF), University of Lille, CNRS,  
UMR 8576, 59658 Villeneuve  
d'Ascq, France

**Dr. Lu-Gang Yu**

Gastroenterology Unit,  
Department of Cellular and  
Molecular Physiology, Institute of  
Translational Medicine,  
University of Liverpool, Liverpool  
L69 3GE, UK

Deadline for manuscript  
submissions:

**closed (31 December 2020)**

### Message from the Guest Editors

Carbohydrate recognition plays a vital role in the activation and function of the immune system, but has remained understudied for the important reason that carbohydrates alone cannot bind thymus cells to activate B-cells to produce the highly specialized and matured immunoglobulin-G antibodies. With the advance of modern analytical techniques in glycoproteomics, a growing collection of rare glycan structures are being discovered, localized, and linked to diseases. Tumor-associated carbohydrate antigens found in metaplastic tissues, such as the embryonal Lex antigen in breast cancer, LacdiNAc in human gastric mucosa, and paucimannosidic glycans in pancreatic and colon cancer, are examples of known targets for lectins of pathogenic microorganisms, but also of carbohydrate-binding antibodies. However, our understanding about how our immune system and our microbiome react to aberrant glycosylation patterns on proteins and cells is still in its infancy.

In this Special Issue, we will focus on recent and rapidly growing progress in our knowledge of carbohydrate recognition in the immune system, by both exogenous and endogenous lectins and antibodies.





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### Prof. Dr. Maurizio Battino

Department of  
Odontostomatologic and  
Specialized Clinical Sciences,  
Sez-Biochimica, Faculty of  
Medicine, Università Politecnica  
delle Marche, Via Ranieri 65,  
60100 Ancona, Italy

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