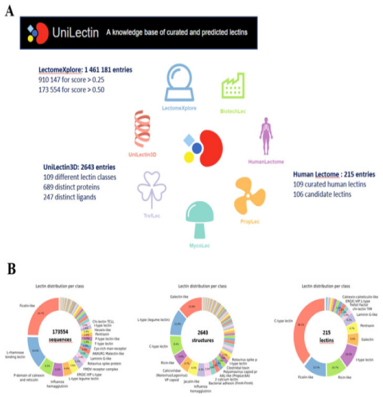
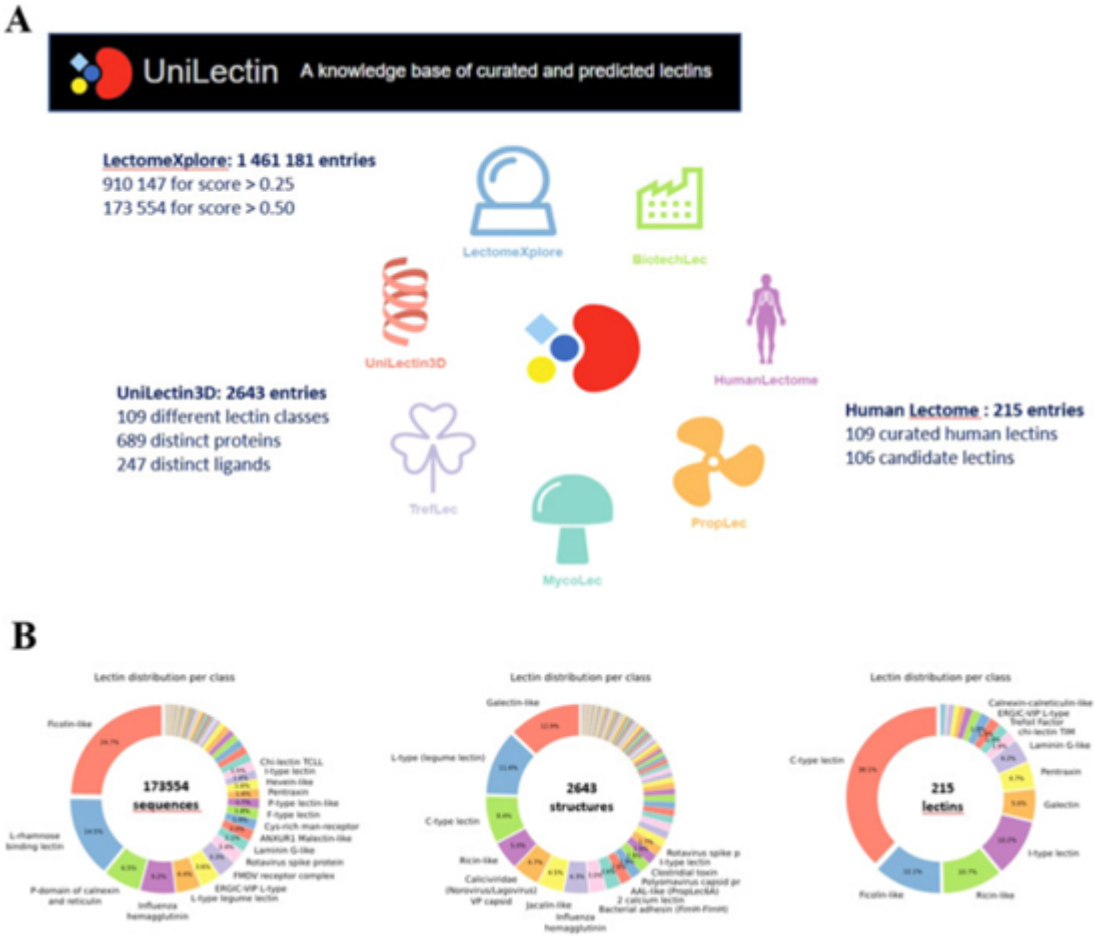


Tools for structural lectinomics: From structures to lectomes

Description

Tools for structural lectinomics: From structures to lectomes

Lectins are ubiquitous proteins that interact with glycans in various molecular processes and, as such, also play a role in diseases, whether infectious, chronic, or cancer-related. Therefore, the systematic study of lectins is essential, particularly for understanding cell-cell communication. Accumulated protein three-dimensional structural data in the past decades boosted advances in AI-based prediction. They opened up new options to characterize lectins that are known to often be multimeric and multivalent. This article reviews the methods to obtain structures of lectins, the current data available for lectin 3D structures and their interactions, and how this knowledge is used to classify these proteins. It shows that combining an array of bioinformatics tools should predict binding specificity, possibly shortly.



The UniLectin Portal. (A) Schematic view of the different databases with content information. (B) Number of entries per lectin class for the different databases, with number and names indicated for the most populated ones.

Category

1. News