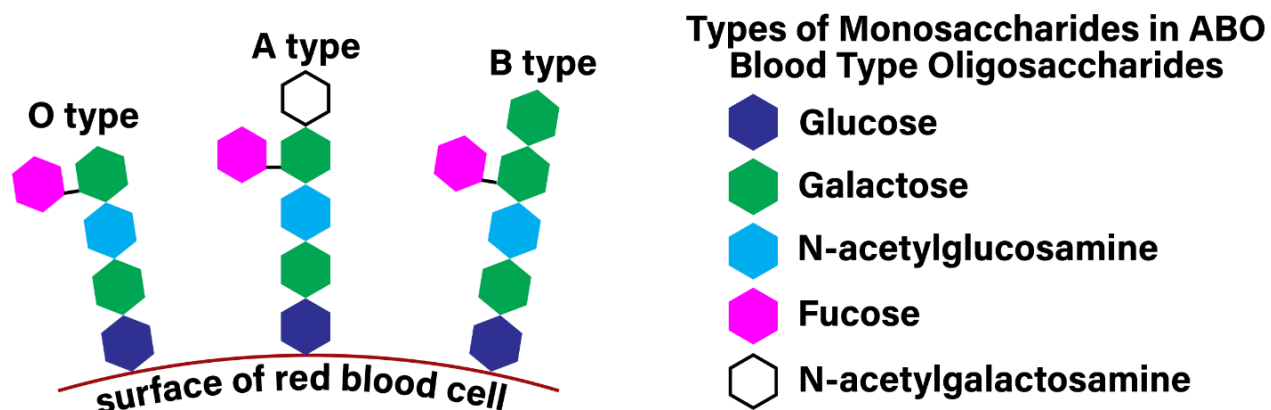


3.3.4

Oligosaccharides

Oligosaccharides differ from polysaccharides primarily in their function. Oligosaccharides range in length from a few monosaccharides up to 100 or more. In humans, most oligosaccharides are between 5-30 monosaccharides in length. These sugars can be linear or branched and are made of a diverse pool of monosaccharides. The diversity in shape and composition facilitates their primary role as cell signaling molecules. Attached to the outer cell membrane, oligosaccharides aid in cell identification and function. A familiar example is blood type. A, B, and O blood types are all designated by a type of oligosaccharide found on the surface of red blood cells (see image below).

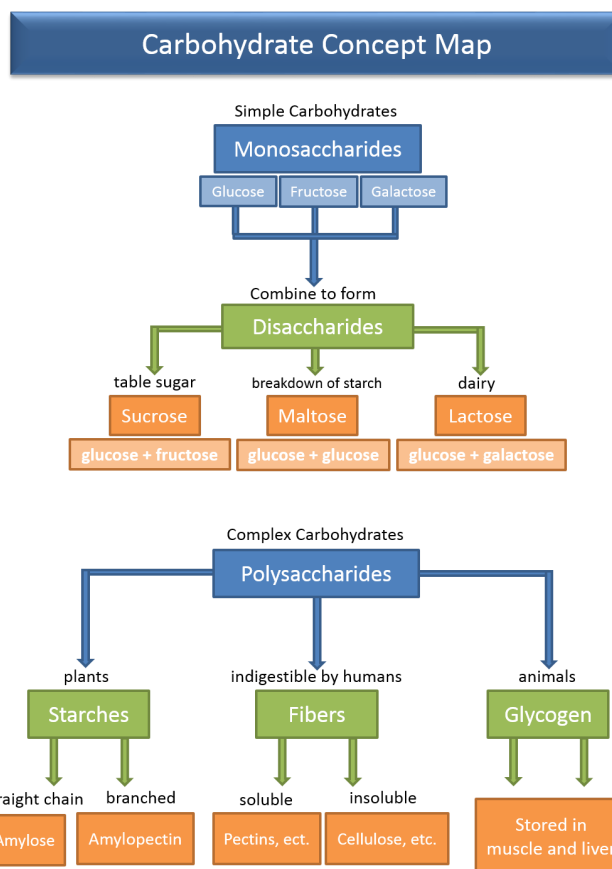


ABO blood types are identifiable by different oligosaccharides on the surface of red blood cells.

Image by BYU-Idaho professor Spring 2021

This image shows the different oligosaccharides expressed on the surface of red blood cells that contribute to blood type. These oligosaccharides are branched and are made of 5 different monosaccharides.

In summary, the Dietary Carbohydrate Concept Map shown below ties together the major relationship between and most common examples of monosaccharides, disaccharides and polysaccharides.



Carbohydrate Concept Map: Image created by BYU-I student Hannah Crowder, 2013



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