

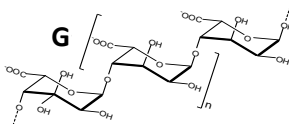
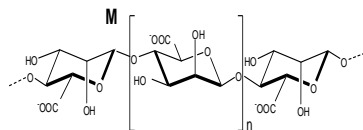
Alginate

Alginic acid (algin, alginate) is a polysaccharide that is abundant in the cell walls of *brown algae* (Pheophyceae, mainly laminariales and fucales) and in specific bacteria (acetylated form). Chemically, it is a linear *copolymer* with *homopolymeric* blocks of (1-4)-linked β -D-mannuronate (M) and its C-5 epimer α (1-4)-L-guluronate (G) residues, covalently linked together in different sequences or blocks.

Alginates polysaccharides from :

Laminaria Japonica, Fucus vesiculosus, Ascophyllum nodosum, Chorda filum, Durvillaea Antarctica

As oligosaccharides, alginates may be separated in **mannuronates** and **guluronates** forms

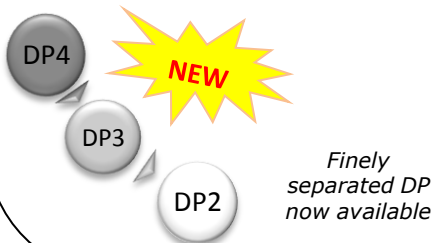


Mannuronates Oligosaccharides

(β 1,4ManA) :

Average DP of: 20, 10, 5 and 3

Mannuronates



Guluronates Oligosaccharides

(α 1,4 GulA) :

Average DP of: 20, 10, 5 and 3

Guluronates

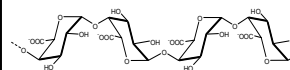


Galacturonan

Pectins consist of three major structural elements: *galacturonan*, *rhamnogalacturonan I*, and the complex *rhamnogalacturonan II* (RG II). Attached to a backbone of 8-10 galacturonic acid residues (α 1-4), rhamnogalacturonan II contains four side chains with rare and diagnostic sugars: 2-O-methyl fucose, 2-O-methyl xylose, apiose, 3-C-carboxy-5-deoxy-L-xylose (aceric acid), 3-deoxy-D-lyxo-2-heptulosaric acid (DHA), and 3-deoxy-D-manno-2-octulosonic acid (KDO).

-Galacturonate polysaccharides low and high methylated from: apple and citrus

-Rhamnogalacturonan polysaccharide from gombo



Galacturonate polysaccharide

LM from apple

-Galacturonan oligosaccharides block (average DP=50-70)

-Galacturonan oligosaccharides (mixture DP7 and 8)

-Galacturonan oligosaccharides (mixture DP3 and 4)

Galacturonan (α 1,4 GalA)

