STRUCTURAL AND IMMUNOMODULATORY STUDIES ON VARIOUS POLYSACCHARIDES FROM THE FRUIT OF AEGLE MARMELOS L. CORREA.

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We have reported the in vitro immunomodulatory activities and the chemistry of different fractions of the fruit of Aegle marmelos.[1,2,3] Various polysaccharides have been isolated through activity guided fractionation and isolation, from both ripe and unripe fruit of Aegle marmelos. In addition polysaccharides were isolated from the mucilage of the fruit. Chemical composition of the polymers were determined by acid hydrolysis followed by TLC and GLC analysis to identify the monomers. The results are shown in Table 1.

In vitro inhibitory activities of crude and purified fractions were tested on haemolytic complement assays on both classical (CP) and alternative (AP) pathways of activation. Anticomplementary activity was shown by polysaccharide from the unripe fruit on the AP assay and by polysaccharide from the ripe fruit on the CP assay. Polysaccharide isolated from the mucilage showed week anticomplementary activity. Mechanistic studies showed that the modulatory effects are due to complement consumption rather than any functional blockade of complement factors.

Table 1. Chemical compositions of the various polysaccharides isolated from Aegle marmelos.

Monosaccharides	Unripe fruit polysaccharide	Ripe fruit polysaccharide	Fruit mucilage polysaccharide
Glucose	5.3%	+	+
Galactose	73.2%	+	+
Arabinose	11.4	+	+
Rhamnose	-	+	+
Xylose	6.7%	-	-
Glucouronic acid	3.4%	-	-

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