

SUPPLEMENTARY FILE

Novel constituents of *Salvia hispanica* L. (chia) nutlet mucilage and the improved in vitro fermentation of nutlets when ground

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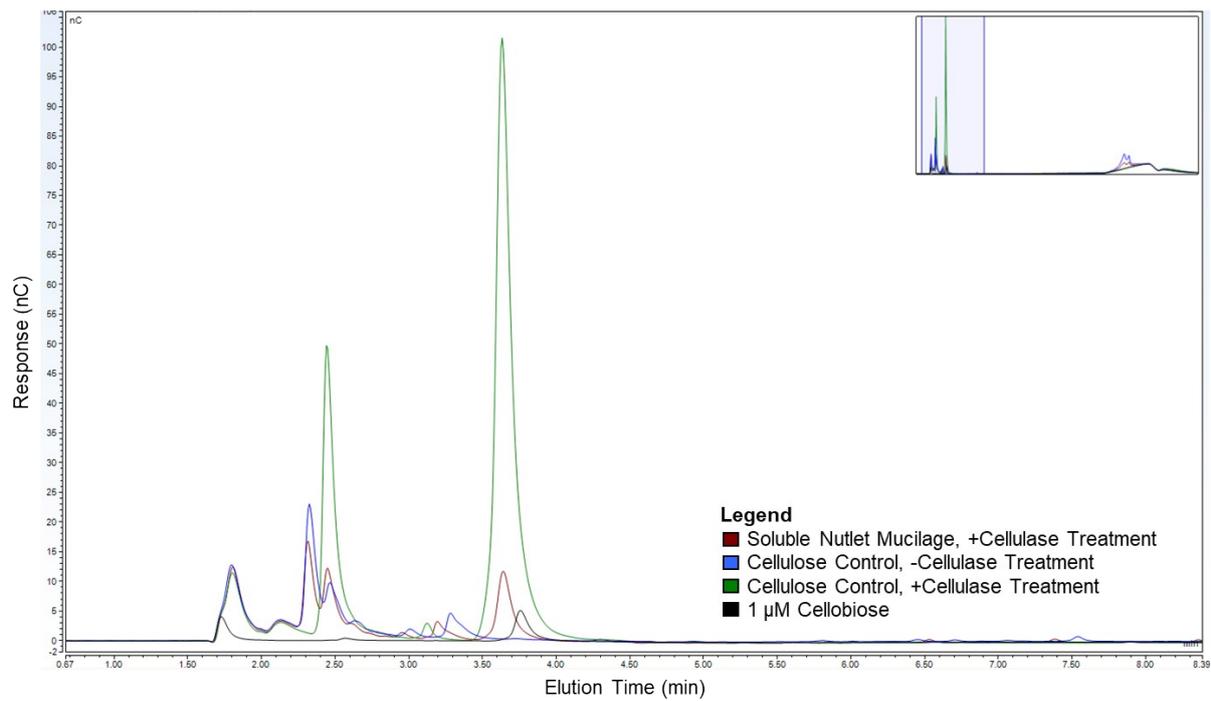
Supplementary Table 1. Summary of labelling by plant cell wall glycan-directed monoclonal antibodies/carbohydrate binding modules tested for whole mount immunolabelling of chia

Antibody / CBM	Antigen	Epitope	Positive Mucilage Labelling?
CBM3a	Cellulose	Crystalline motifs of β -1,4-glucan	✓
LM11	Heteroxytan	Unsubstituted and low substituted β -1,4-xylan backbone	-
LM20	Homogalacturonan	Methyl-esterified backbone	Homogalacturonan -
LM15	Xyloglucan	Xylosyl residues in the XXXG motif of xyloglucan	-

nutlet mucilage

Supplementary Table 2. Summary of oligosaccharide generation by several glycosyl hydrolase enzyme treatments on soluble chia nutlet mucilage as detected by High Performance Anion Exchange Chromatography with Pulsed Amperometric Detection or Matrix Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry (MALDI-TOF MS). Check marks denote oligosaccharides detected; dashes denote no oligosaccharides detected.

Enzyme	CAZy	HPAEC-PAD- detected oligosaccharides	MALDI-TOF MS- detected oligosaccharides
Cellulase (<i>endo</i> -1,4- β -D-glucanase) (<i>Aspergillus niger</i>)	GH12	-	-
Cellulase (<i>endo</i> -1,4- β -D-glucanase) (<i>Trichoderma longibrachiatum</i>)	GH7	✓	-
<i>endo</i> -1,4- β -Xylanase M4 (<i>Aspergillus niger</i>)	GH11	-	-
<i>endo</i> -1,4- β -Xylanase M6 (rumen microorganism)	GH11	-	-
<i>endo</i> -1,4- β -Xylanase (<i>Cellvibrio mixtus</i>)	GH10	-	✓
α -amylase (<i>endo</i> -1,4- α -D-glucan glucohydrolase) (<i>Bacillus</i> sp.)	GH13	-	-
Xyloglucanase (xyloglucan-specific <i>endo</i> -1,4- β -D-glucanase) (<i>Paenibacillus</i> sp.)	GH5	-	-
Driselase (fungal carbohydrase mixture) (<i>Basidiomycetes</i> sp.)	-	-	-



Supplementary Figure 1. HPAEC-PAD chromatograms showing oligosaccharide production consistent with cellulose digestion by GH7 cellulase.