Supplementary Table 1 Randomised trials of miscellaneous dietary fibres

Author /Year	Intervention	Metagenomic approach	Microbiota	Faecal SCFA concentration
Ampatzoglou et.al., 2015 [1]	15g/d Arabinogalactan product or Maltodextrin (n=30)	16S rRNA amplicon	Decreased alpha diversity. No change to beta diversity. Significant decrease in faecal Firmicutes to Bacteroidetes ratio	No change
An et. al., 2019 [2]	8g/d polydextrose powder or maltodextrin (n=31)	FISH and qPCR	significant increase in Ruminococcus intestinalis/bacteria of the Clostridium clusters I, II and IV. decrease in Lactobacillus–Enterococcus group.	No change
Elison et.al., 2016 [3]	HMOs	16S rRNA amplicon	increase in bifidobacteria	No change
Brandl et.al., 2020 [4]	15g/day of Galacto Oligosaccharides	qPCR 16S rRNA amplicon sequencing	Increased *bifidobacteria* (P<0.001); decreased microbial diversity (p=0.023)	No change

	or Maltodextrin (n=24)			
Vuholm et.al., 2017 [5]	14g/day oligofructose or maltodextrin (n=37)	16S rRNA amplicon sequencing	reduced *Bifidobacterium;* Increased abundance of *Ruminococcaceae* in maltodextrin group; decreased *Lachnospiraceae* in the oligofructose group	No change
David et. al.,[6]	10,15, 20g/d of resistant dextrin or glucose (n=48)	RT-qPCR	increased *Bacteroides.* Inhibition of Clostridium perfringens	No change
Wu et. al., 2011 [7]	15 or 25 g Resistant Maltodextrin or maltodextrin (n= 51)	qPCR	bifidobacteria higher (P = .008)	n/a
FDA, 2018[8]	Three type IV resistant starchs	16S rRNA amplicon sequencing	Decreased alpha diversity Beta diversity increased	No change

	(RS4s) or digestible corn starch (n=40)		Dose dependent with plateau at 35g	
Phelps et.al., 1965 [9]	40g high-amylose resistant starch or digestible starch (n=19)	16S rRNA amplicon sequencing	not changed at the phylum level; increase in *Ruminococcaceae UCG-005;* Bacteroides decreased	Increased Acetate
Alfa et.al, 2018 [10]	30g/d of resistant starch or placebo (n=42)	16S rRNA amplicon sequencing	Decreased alpha diversity and Firmicutes/Bacteroidetes ratio. Increased Bifidobacterium	No change
Finegold et.al, 2014 [11]	XOS in capsule form or placebo capsules	Culture based analysis	Increased bifidobacterium, anaerobes, bacteroides fragilis	No changes
Lecerf et. al, 2012 [12]	XOS/XOS Inulin mixture or maltodextrin as placebo (n=60)	qPCR	Increased bifidobacterium and moderately increased lactobacillus	Increased total SCFA

Supplementary Table 2 Randomised trials of miscellaneous fibre mixtures

Rrf.	Intervention	Method of analysis	Microbiota	Faecal SCFA concentration
Clarke et. al, 2016 [13]	5g/day thrice a day of beta 2 -1 fructan or maltodextrin (n=30)	qPCR	Increased bifidobacterium	Increased SCFAs
Healey et.al, 2016 [14]	16g/day of inulin type fructan or maltodextrin (n=34)	16S rRNA amplicon sequencing	Alpha diversity – decreased Shannon index, increased Increased bifidobacterium	No change
Fernando et. al, 2010 [15]	Usual diet + 200g/d canned chickpeas/ 5g/day raffinose for 3 weeks or usual diet	Terminal restriction fragment-length polymorphism (T-RFLP) analysis and qPCR	Decreased clostridium histolyticum/clostridium lituseburense	No change
Duysberg et. al, 2021 [16]	40g/day oats or cream of rice	qPCR	increase in lactobacilli; increased bifidobacteria	no change

	(n= 34)		(not significant)	
Carvelho-Wells et. al, [17]	48g/d whole grain maize or non-whole grain breakfast cereal (n=32)	FISH	Increased bifidobacterium	No changes
Connoly et.al, 2016 [18]	45g/d whole grain or non-whole grain oat granola breakfast cereal (n=30)	FISH	Increased bifidobacterium, lactobacilli and total bacteria	No change
Venegas et. al, 2017 [19]	Whole grain or Refined grain diet: 40g fibre	16S rRNA amplicon sequencing	Decrease Enterobacteriaceae, increased lachnospira	Increased acetate and total SCFAs
Alexander et. al, [20]	Orange or apple juice with pomace or without pomace	qPCR	No change in alpha or beta diversity	n/a
Benitez-Paez et. al, [21]	10 g day inulin + 10 g day resistant	Shotgun metagenomics	no change in alpha diversity.	n/a

	maltodextrin milk or maltodextrin (n=80)		beta diversity increased (p = 0.002)	

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