

**Table S1.** Proximal composition of whey commercial products

	<b>WPI<sup>a</sup></b>	<b>GOS-W<sup>b</sup></b>	<b>GMP<sup>a</sup></b>
<b>Protein (%)</b>	97.8	17.5	92.8
<b>Lactose (%)</b>	N.D	36.0	0.76
<b>pH</b>	6.9	6.3	6.4
<b>Moisture (%)</b>	4.9	3.0	7.3
<b>Fat (%)</b>	0.3	1.5	0.1
<b>Ash</b>	1.9	-	5.9
<b>Minerals (%)</b>	-	3.5	-
<b>GOS (%)</b>	-	27.5	-
<b>GMP, % of protein</b>	-	-	94.9

Composition provided by manufacturer. <sup>a</sup>Agropur, <sup>b</sup>FrieslandCampina Ingredients.

**Table S2.** List of primer sequences for pro-inflammatory, tight junction, mucus layer and housekeeping biomarkers

	<b>Gene</b>	<b>Sequence (5' to 3')</b>
<b>Inflammation</b>	NF- $\kappa$ B	Forward: TGGGAATGGTGAGGTCACTCT Reverse: TCCTGAACTCCAGCACTCTCTTC
	TNF- $\alpha$	Forward: TGTGTGGCTGCAGGAAGAAC Reverse: GCAATTGAAGCACTGGAAAAGG
	TLR-4	Forward: TGGTGTCCCAGCACTTCATC Reverse: GCCAGGTCTGAGCAATCTCATA
	IRAK-1	Forward: CAGACAGGGAAGGGAAACATTTT Reverse: CATGAAACCTGACTTGCTTCTGAA
	<b>Tight Junction</b>	Claudin-1
Occludin		Forward: CCAATGTCCGAGGAGTGGG Reverse: CGCTGCTGTAACGAGGCT
ZO-1		Forward: CAAGATAGTTTGGCAGCAAGAGATG Reverse: ATCAGGGACATTCAATAGCGTAGC
<b>Mucus layer</b>	MUC5AC	Forward: GCAGCTATGTGCTGACCAAG Reverse: GCAGCTCAGCCAGTACAGTG
<b>Housekeeping</b>	$\beta$ -actin	Forward: GGACTTCGAGCAAGAGATGG Reverse: AGCACTGTGTTGGCGTACAG

Nuclear factor kappa B (NF- $\kappa$ B), tumor necrosis factor alpha (TNF- $\alpha$ ), toll like receptor 4 (TLR-4), TNF receptor associated factor 6 (TRAF-6), interleukin-1 receptor-associated kinase 1 (IRAK-1), zonula occludens-1 (ZO-1), mucin 5AC (MUC5AC).

**Table S3.** mRNA levels of tight junction genes in HT-29MTX and Caco-2 cells

Cell line	Genes	mRNA levels/ mRNA $\beta$ -actin	Control	TGF- $\beta_1$	WPI	GOS-W	GMP	p value
HT29-MTX	<i>Tight Junction</i>	Claudin-1	1.10 $\pm$ 0.21	3.40 $\pm$ 0.48*	1.40 $\pm$ 0.18	1.30 $\pm$ 0.38	2.50 $\pm$ 0.17*	0.0002
		OCC	1.10 $\pm$ 0.20	1.30 $\pm$ 0.40	3.50 $\pm$ 0.54	2.20 $\pm$ 0.75	3.70 $\pm$ 0.95*	0.0297
		ZO-1	0.83 $\pm$ 0.16	0.65 $\pm$ 0.11	1.90 $\pm$ 0.24	2.10 $\pm$ 0.39*	2.20 $\pm$ 0.61*	0.0021
	<i>Mucus Layer</i>	MUC5AC	0.96 $\pm$ 0.21	0.86 $\pm$ 0.20	2.10 $\pm$ 0.24*	0.87 $\pm$ 0.22	3.10 $\pm$ 0.43*	<0.0001
Caco-2	<i>Tight Junction</i>	Claudin-1	0.87 $\pm$ 0.08	1.10 $\pm$ 0.17	1.60 $\pm$ 0.24*	0.67 $\pm$ 0.07	0.61 $\pm$ 0.22	0.0051
		OCC	0.85 $\pm$ 0.13	1.60 $\pm$ 0.48	1.90 $\pm$ 0.45	0.96 $\pm$ 0.38	0.41 $\pm$ 0.14	0.0516
		ZO-1	1.00 $\pm$ 0.13	0.97 $\pm$ 0.05	1.30 $\pm$ 0.05	0.91 $\pm$ 0.04	0.81 $\pm$ 0.14	0.0531

mRNA levels were analyzed by RT-PCR with  $\beta$ -actin as housekeeping gene. Cells were treated with whey commercial products or TGF- $\beta_1$  (0.06  $\mu$ g/mL) for 24 h as described in detailed in materials and methods. Data are mean  $\pm$  SEM (n  $\geq$  3). Pairwise comparisons against controls not treated with TGF- $\beta_1$  were performed by Dunnett's test. Significant differences are denoted by (\*) p<0.05.