

Table S1. Composition of standard and high-fat diets.

Nutritional profile	High-Fat Diet	Standard Diet
Protein [%]	24.2	17.6
Fat [%]	34.7	5.2
Fiber (max) [%]	5.5	3.9
Carbohydrates [%]	27.8	68.3
Energy (kcal/g)	Kcal / %	Kcal / %
From Protein	0.969 / 18.6	0.705 / 18.3
From Fat (ether extract)	3.122 / 59.9	0.464 / 12.1
From Carbohydrates	1.113 / 21.4	2.733 / 71.0

Table S2. Body weight, relative epididymal fat pad weight, consumed drinking water, consumed IVS-1 and GOS, and host physiological markers.

	Standard Diet	High-Fat Diet	High-Fat Diet Prebiotic	High-Fat Diet Probiotic	High-Fat Diet Synbiotic	<i>p</i> - value ANOVA
Average body weight [g rat ⁻¹]	475 ±19	449 ±46	499 ±81	496 ±62	502 ±51	0.5446
Average relative epididymal fat pad weight [% rat ⁻¹]	0.84 ±0.2	1.04 ±0.4	1.12 ±0.3	1.01 ±0.2	1.08 ±0.5	0.8267
Average water consumption [ml rat ⁻¹ day ⁻¹]	29.3 ±4.1 ^b	35.6 ±4.5 ^a	36.3 ±4.9 ^a	41.9 ±8.6 ^c	35.4 ±4.5 ^a	<0.0001
Average IVS-1 consumption [CFU rat ⁻¹ day ⁻¹]	NA	NA	NA	1.26 x 10 ^{9a}	1.06 x 10 ^{9b}	0.0001 [#]
Average GOS consumption [g rat ⁻¹ day ⁻¹]	NA	NA	1.20	NA	1.17	0.2063 [#]
Triglyceride content [µg TG mg ⁻¹ tissue]	17.8 ±4.3 ^a	70.7 ±1.4 ^b	62.7 ±1.2 ^{bc}	53.5 ±0.8 ^c	92.4 ±2.4 ^d	<0.0001
Alkanine Phosphatase (ALP) [units liter ⁻¹]	227 ±83	399 ±55	464 ±127	458 ±167	460 ±120	0.0646
Alanine Transferase (ALT) [units liter ⁻¹]	34 ±13	42 ±11	36 ±5	37±7	41 ±4	0.6418
TNF-α [pg ml ⁻¹]	14.2 ±2.3	14.1 ±2.6	16.2 ±3.2	16.7 ±7.9	13.8 ±1.4	0.4718
MCP-1 [pg ml ⁻¹]	224 ±25	228 ±37	239 ±21	248 ±63	243 ±36	0.6345

* as a threshold for steatosis was a liver triglyceride levels greater than 50 µg/mg of tissue

NA: not applicable

[#] Student's *t*-test was applied

Values with different letters are significantly different from each other

Figure S1

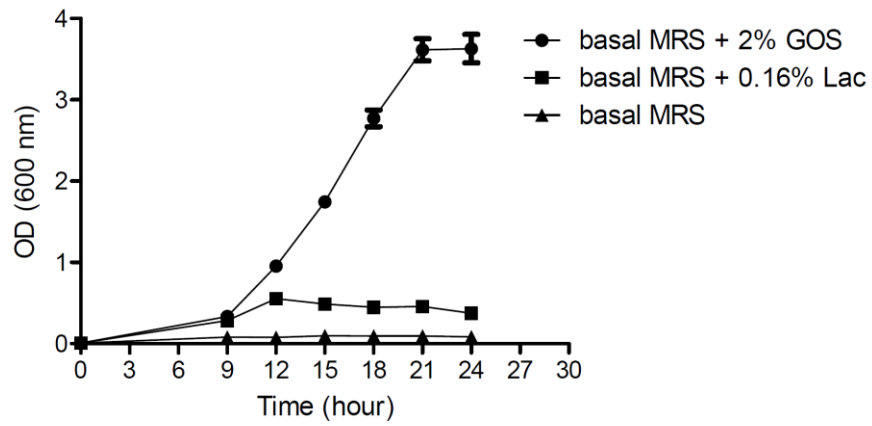


Figure S1. Growth of *B. adolescentis* IVS-1 in basal MRS supplemented with GOS, 0.16% lactose (residual sugar present in the commercial GOS), or basal MRS without carbohydrates.