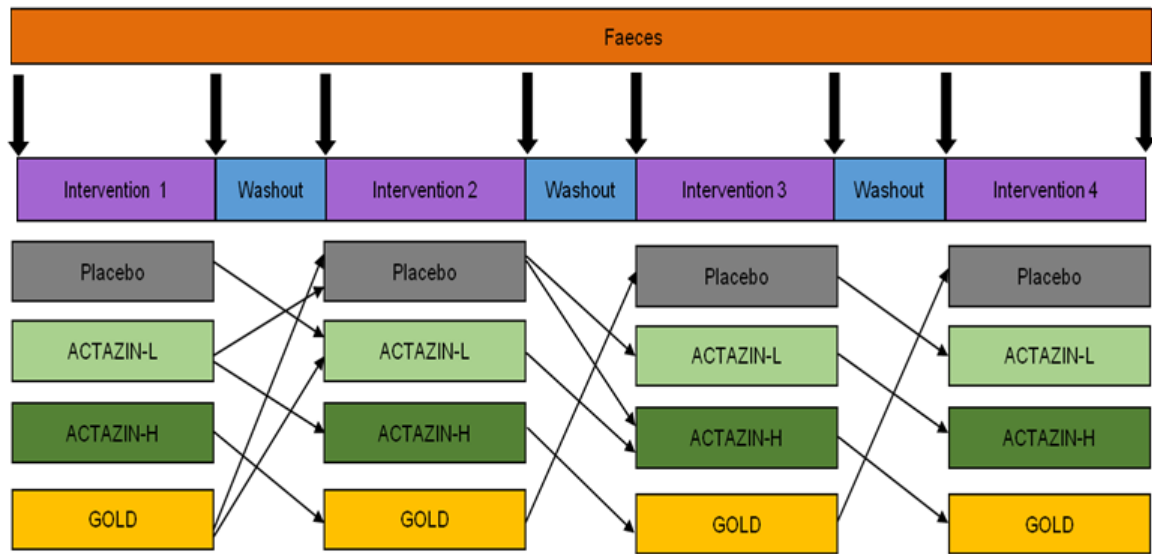
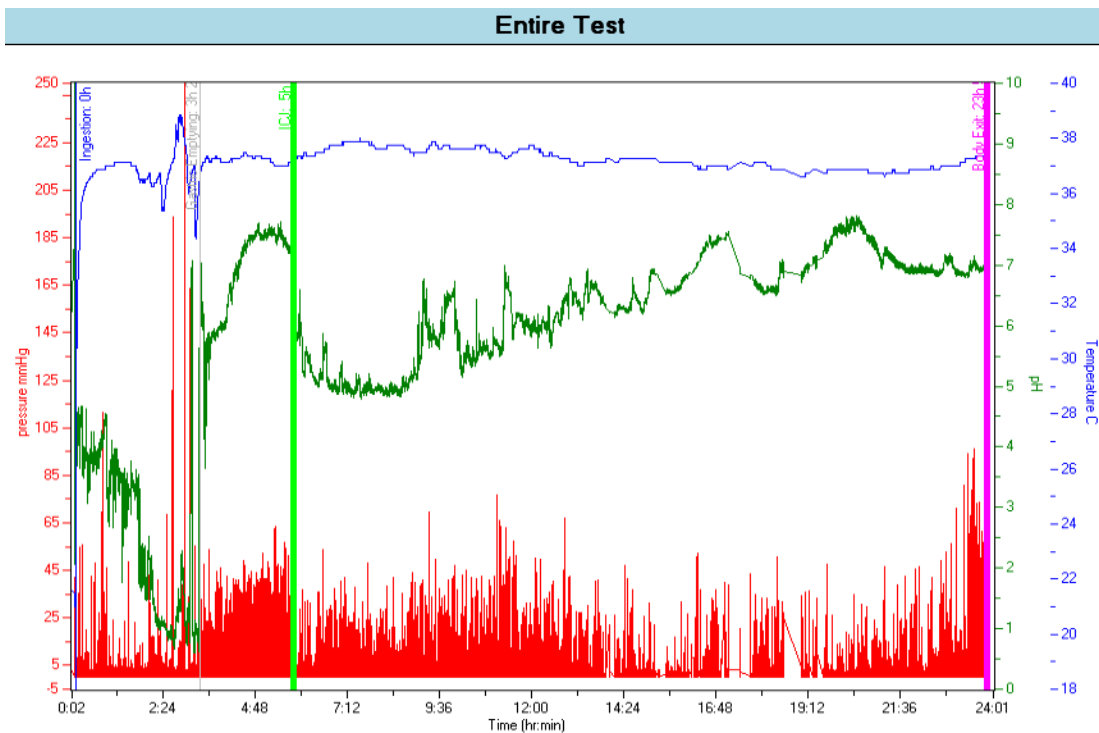


## Supplementary Figures

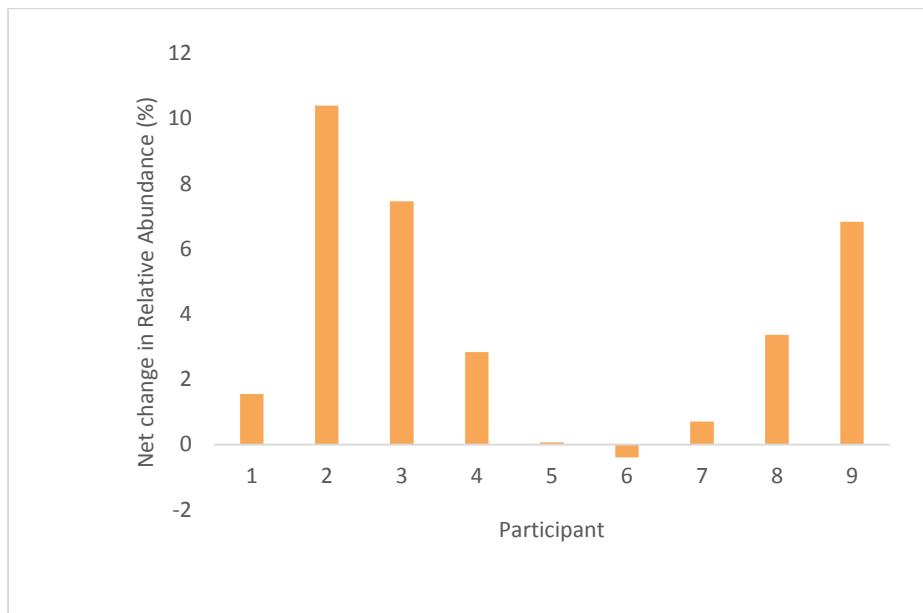
**Figure S1.** Schematic of trial treatments, washouts and sampling points.



**Figure S2.** SmartPill® data output for a single participant showing pressure (red), temperature (blue) and pH (green) measurements *in situ* during gastrointestinal transit. Transit events (ingestion, gastric emptying, ileocecal junction, exiting the body) are shown (blue, grey, green and pink bars, respectively).



**Figure S3.** Net change in *Faecalibacterium prausnitzii* abundance after Livaux treatment for the nine participants of the functionally constipated group as measured by Illumina MiSeq sequencing.



**Table S4.** Average distal colonic pH data from SmartPill® measurements from the six participants while on the placebo or ACTAZIN™ H treatments. Standard error of the mean (SEM).

	<b>Placebo</b>	<b>Actazin™ H</b>
Participant 1	7.00	6.30
Participant 2	6.84	6.70
Participant 3	6.10	6.03
Participant 4	6.30	5.78
Participant 5	5.90	6.77
Participant 6	5.67	6.70
Average	6.30	6.38
SEM	0.21	0.17