

Product #	D13081109		D19021101		D19021103	
	10 kcal% Fat		10 kcal% Fat		10 kcal% Fat	
	200 g Cellulose		50 Cell + 150 Inulin		50 Cell + 150 Psyllium	
	gm%	kcal%	gm%	kcal%	gm%	kcal%
Protein	17	20	18	20	17	20
Carbohydrate	59	70	70	70	58	70
Corn Starch	42	50	39	44	40	46
Fat	4	10	4	10	4	10
Total		100		100		100
kcal/gm	3.37		3.53		3.47	
Ingredient	gm	kcal	gm	kcal	gm	kcal
Casein	200	800	200	800	200	800
L-Cystine	3	12	3	12	3	12
Corn Starch	506.2	2025	450	1800	468.7	1875
Corn Starch, Hi-Maize 260	0	0	0	0	0	0
Maltodextrin 10	125	500	125	500	125	500
Sucrose	68.8	275	68.8	275	68.8	275
Cellulose, BW200	200	0	50	0	50	0
Inulin, Orafit HP	0	0	150	225	0	0
Pectin, Tic Gums 1400	0	0	0	0	0	0
Psyllium	0	0	0	0	150	150
Lard	20	180	20	180	20	180
Soybean Oil	25	225	25	225	25	225
Mineral Mix S10026	10	0	10	0	10	0
Dicalcium Phosphate	13	0	13	0	13	0
Calcium Carbonate	5.5	0	5.5	0	5.5	0
Potassium Citrate, 1 H ₂ O	16.5	0	16.5	0	16.5	0
Vitamin Mix V10001	10	40	10	40	10	40
Choline Bitartrate	2	0	2	0	2	0
Yellow Dye #5, FD&C	0	0	0.05	0	0.01	0
Red Dye #40, FD&C	0	0	0	0	0	0
Blue Dye #1, FD&C	0.05	0	0	0	0.04	0
Total	1205.05	4057	1148.85	4057	1167.55	4057
gm						
Total Fiber	200.0		200.0		200.0	
Insoluble Fiber	200.0		50.0		147.5	
Soluble Fiber	0.0		150.0		39.0	
gm%						
Total Fiber	16.6		17.4		17.1	
Insoluble Fiber	16.6		4.4		12.6	
Soluble Fiber	0.0		13.1		3.3	

Table S1. Composition of the three purified diets used in this study.

For BRM medium. To 975 mL of distilled water, add:

Quantity	Reagent
1 g	Tryptone
2 g	Proteose peptone
2 g	Yeast extract
100 mg	Arabinogalactan
150 mg	Maltose
150 mg	D-cellobiose
400 mg	Sodium chloride
10 mg	Magnesium sulfate heptahydrate
10 mg	Calcium chloride dihydrate
40 mg	Potassium phosphate dibasic
40 mg	Potassium phosphate monobasic
5 mg	Hemin

For sugar suspension. To 975 mL of distilled water, add:

Quantity	Reagent
25 mL	Distilled water
1 mg	Vitamin K ₃
40 mg	D-glucose
200 mg	Inulin
2 g	Sodium bicarbonate

Table S2. Composition of the MBRA medium used for the *in vitro* experiment

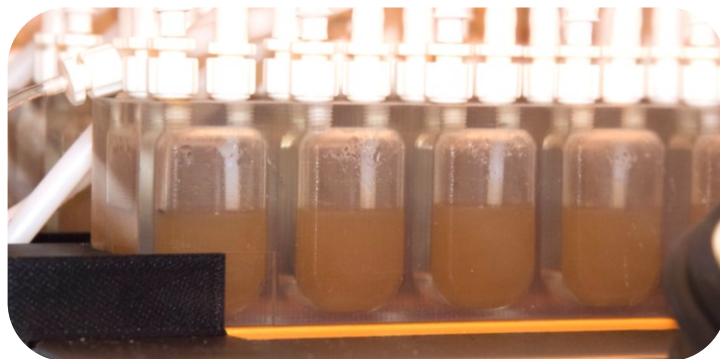
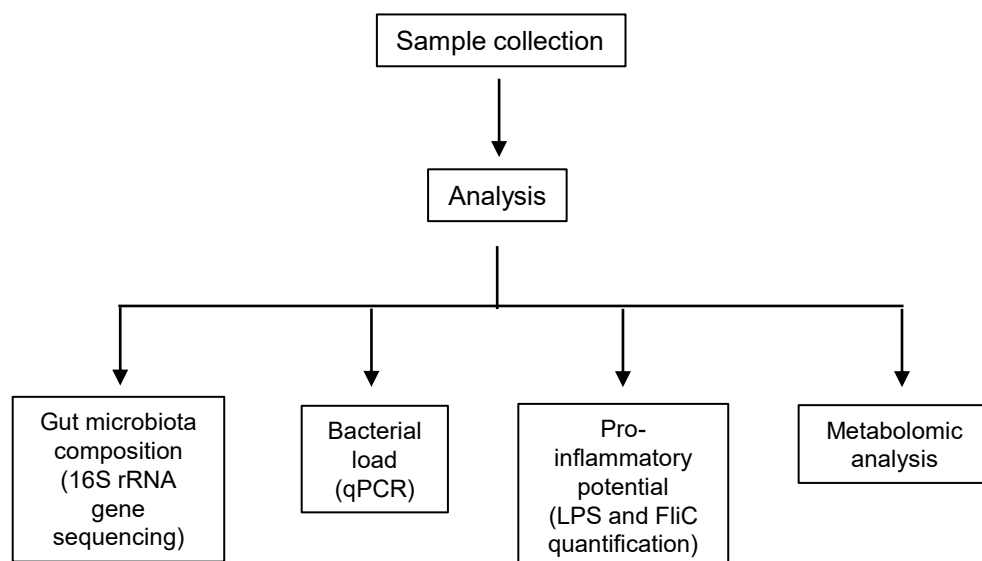
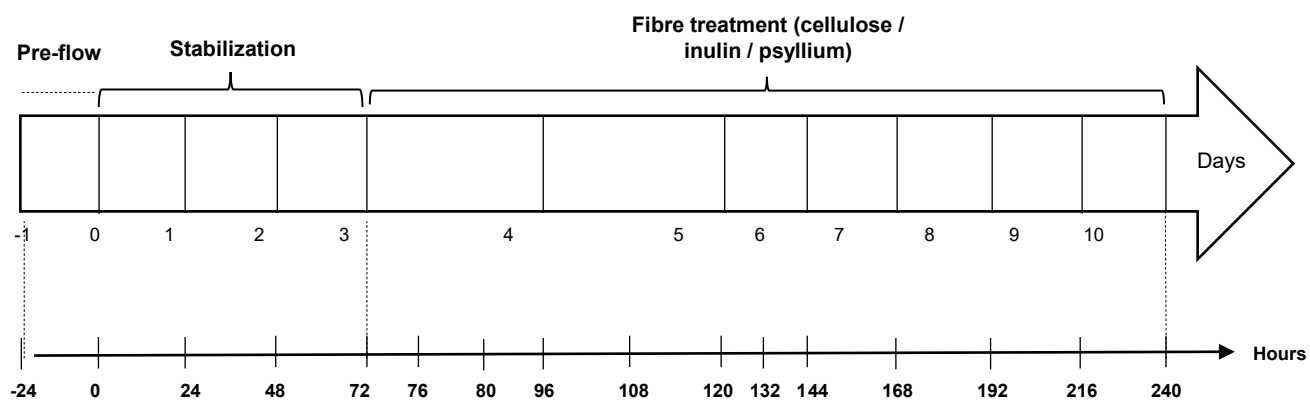
A**B**

Figure S1. Presentation of the MBRA system and schematic outline of the experimental plan used.

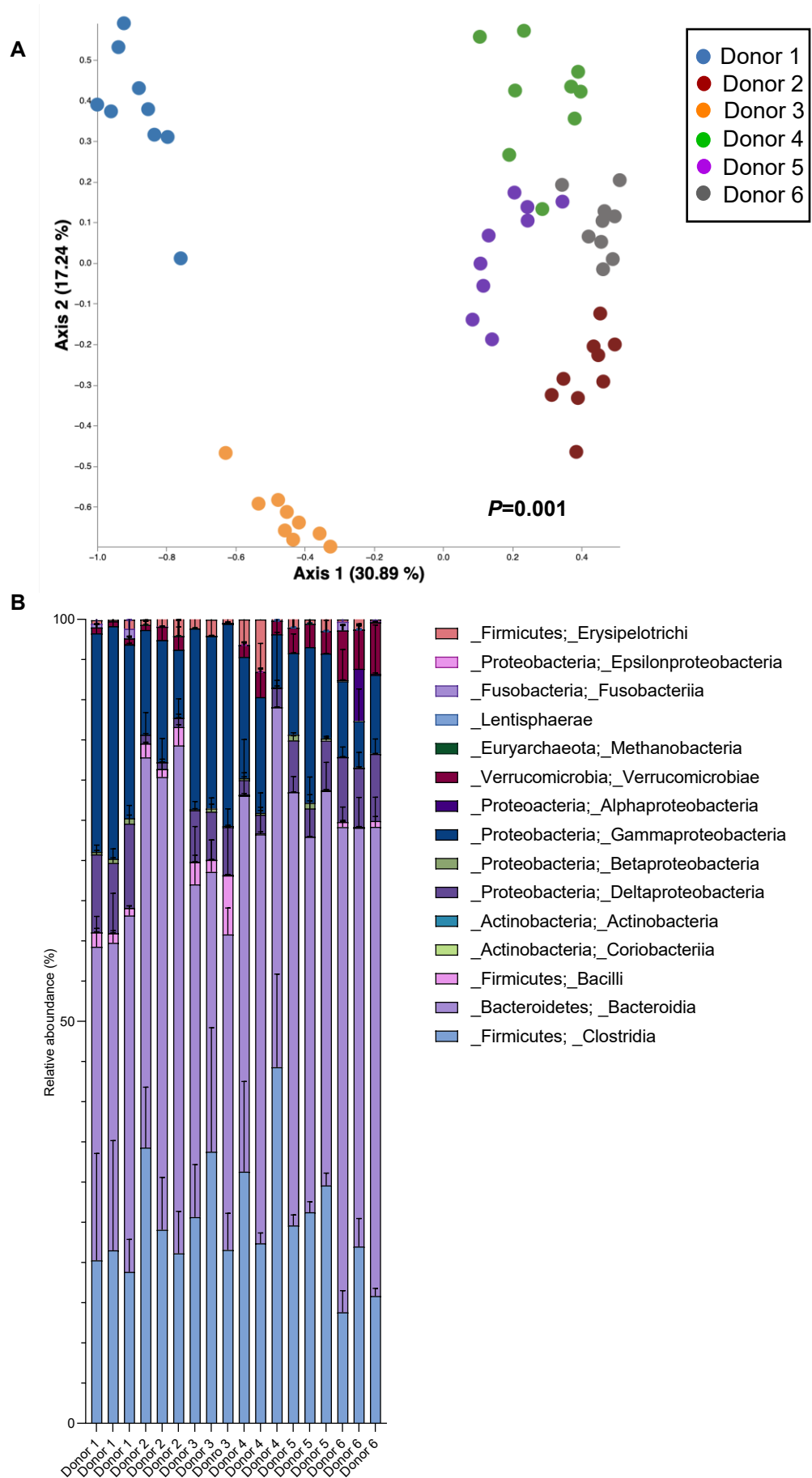


Figure S2. Efficacy of the MBRA system to reproduce inter-individual variations in microbiota composition.

C

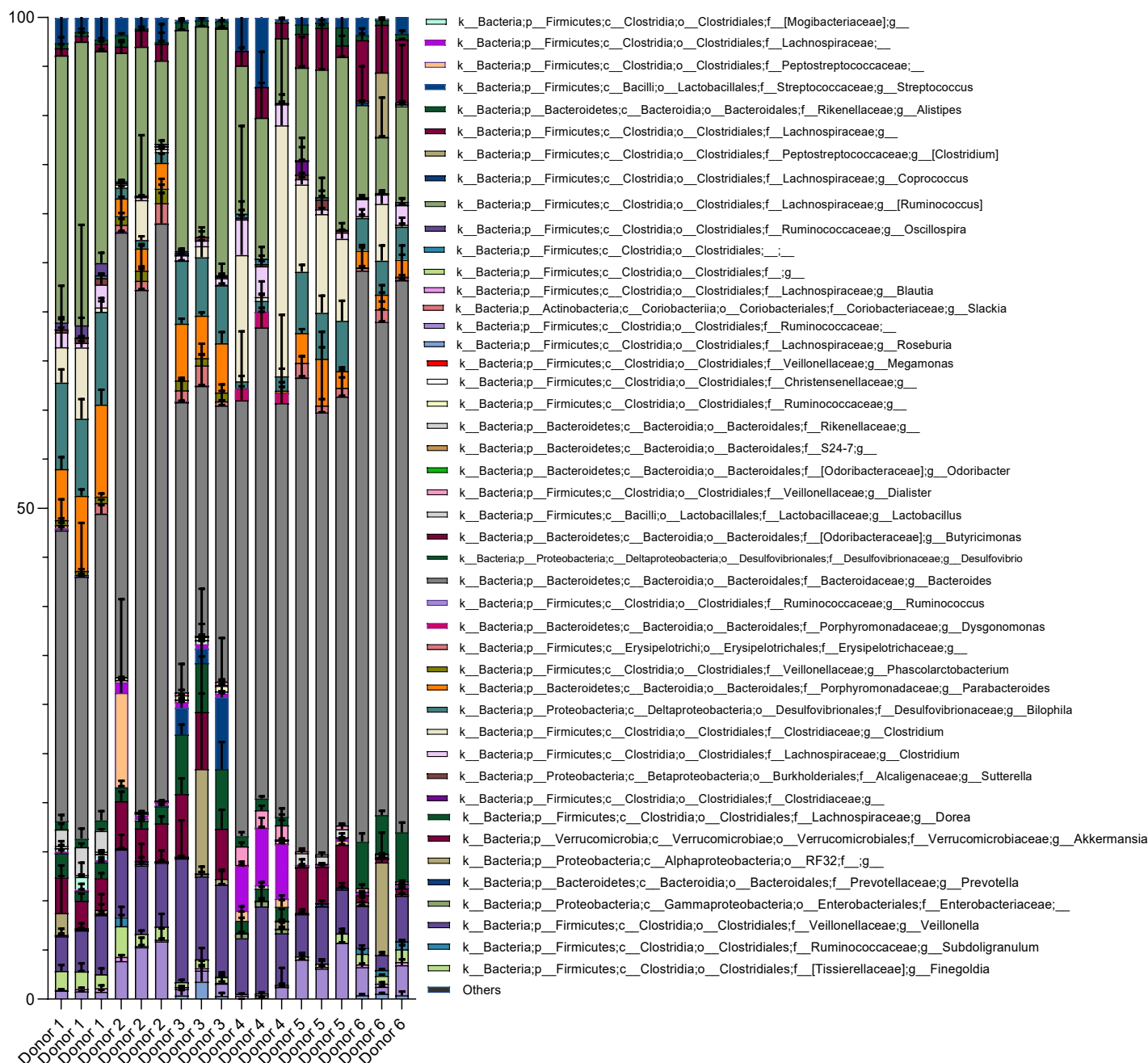


Figure S2. Efficacy of the MBRA system to reproduce inter-individual variations in microbiota composition.

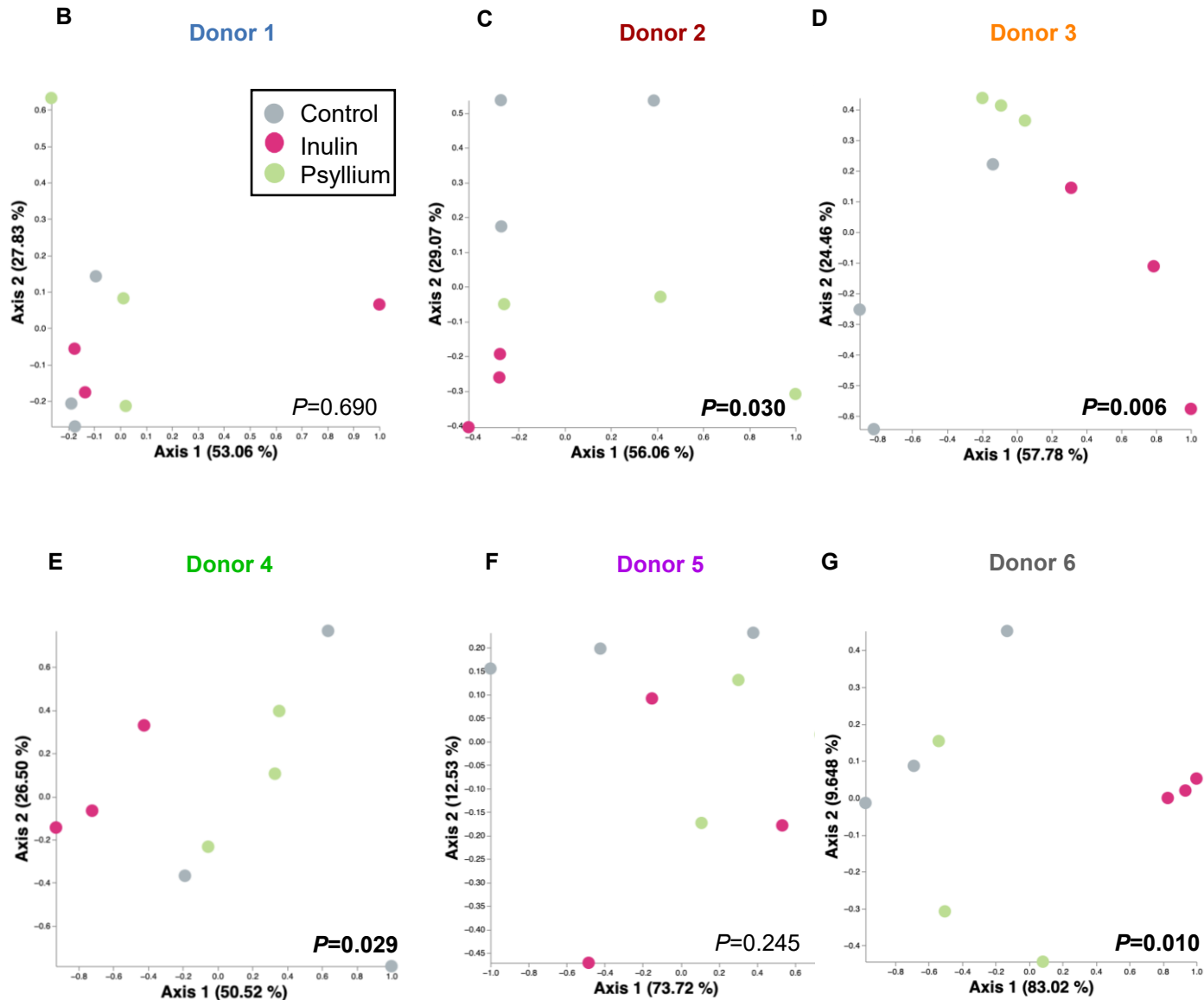
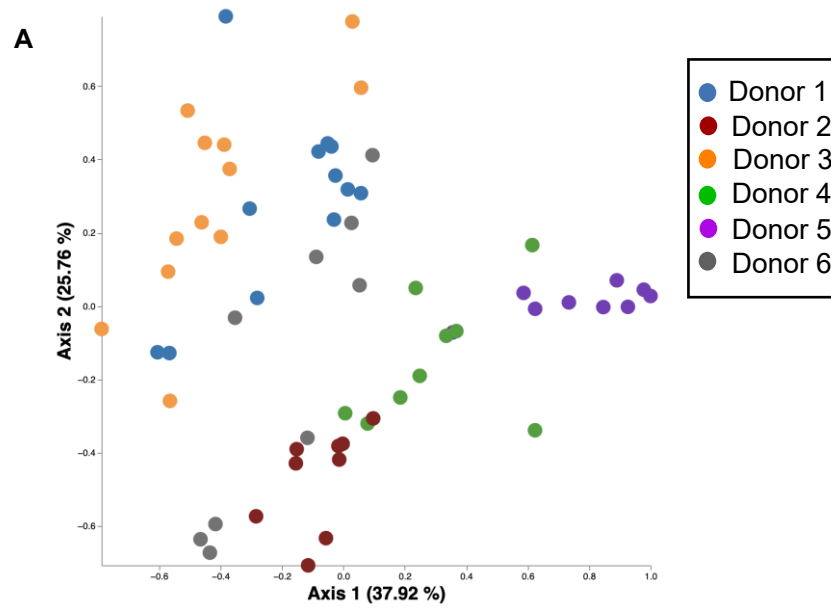


Figure S3. Inter-individual variations in fibres-induced metabolomic alterations.



Figure S4. Inter-individual variations in fibres-induced metabolomic alterations.

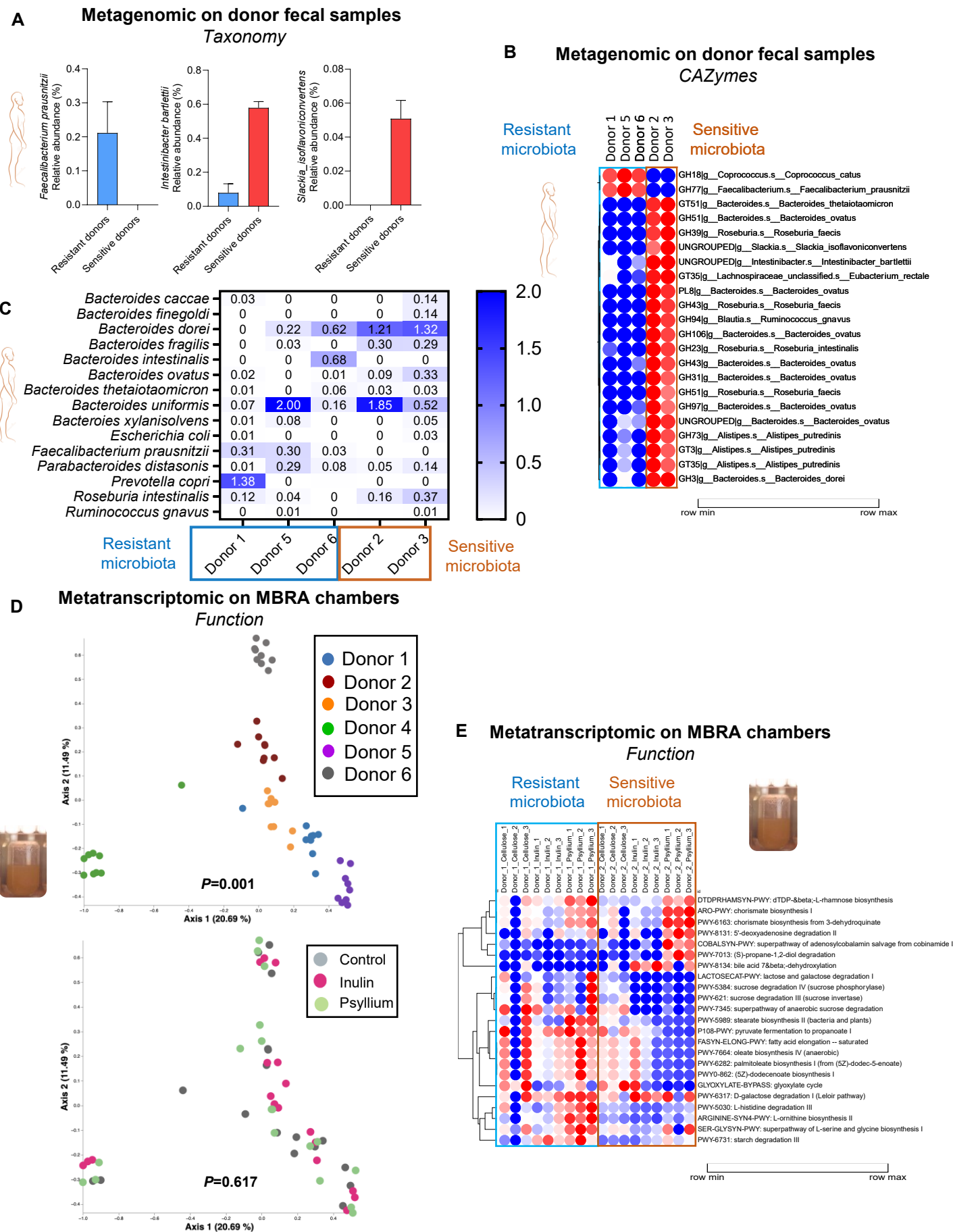
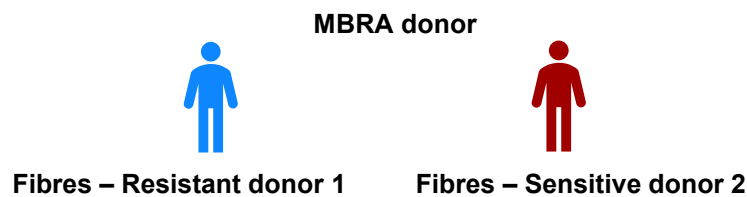


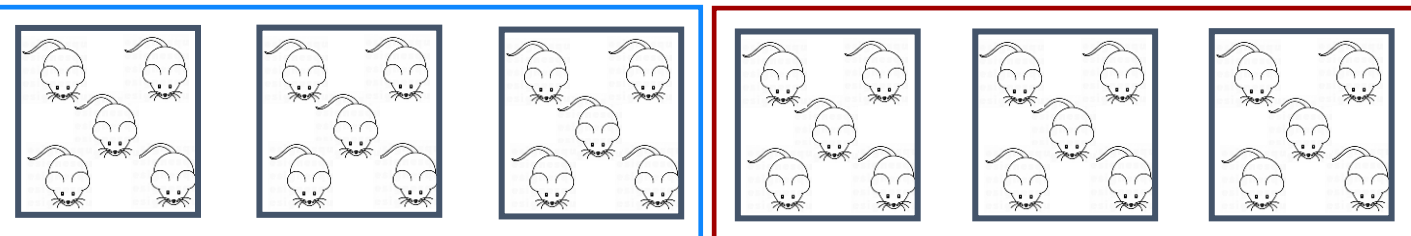
Figure S5. Inter-individual variations in metagenomic and metatranscriptomic based on the fibre sensitivity status.

A

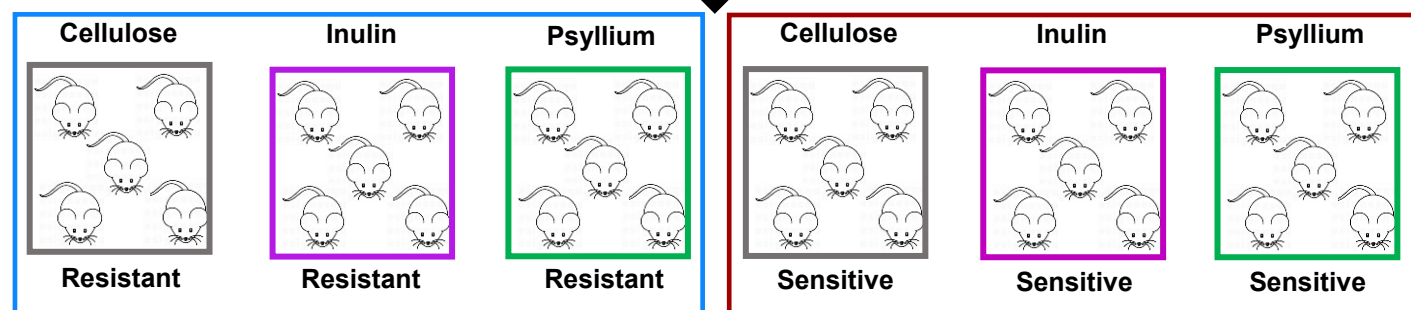


Fecal Microbiota Transplantation to

GermFree C57BL/6 mice



2 weeks acclimatization



B

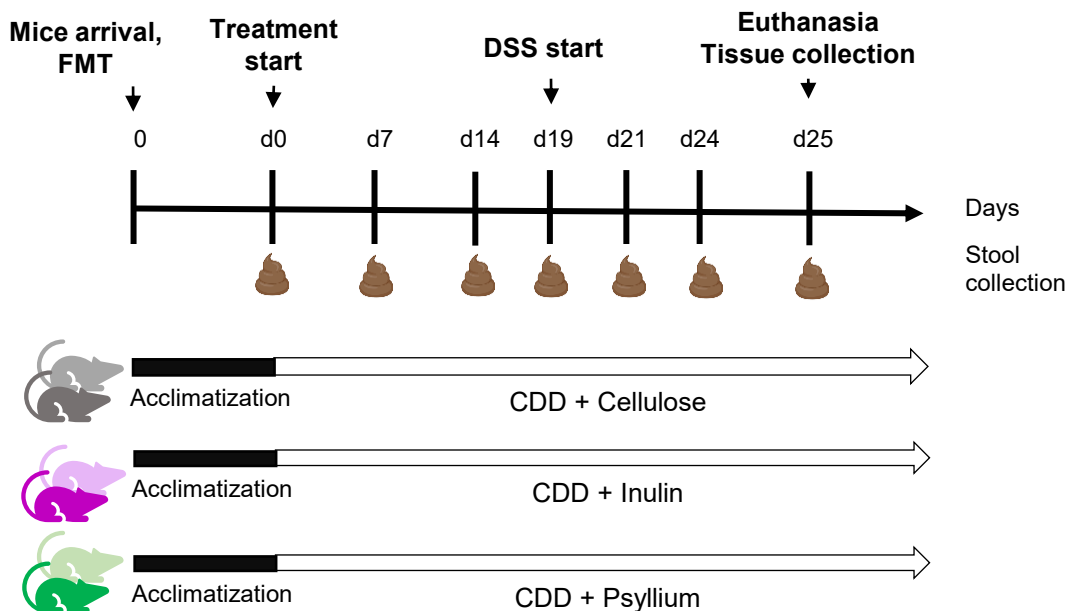


Figure S6. Schematic representation of the experimental design used for the mice experiment.

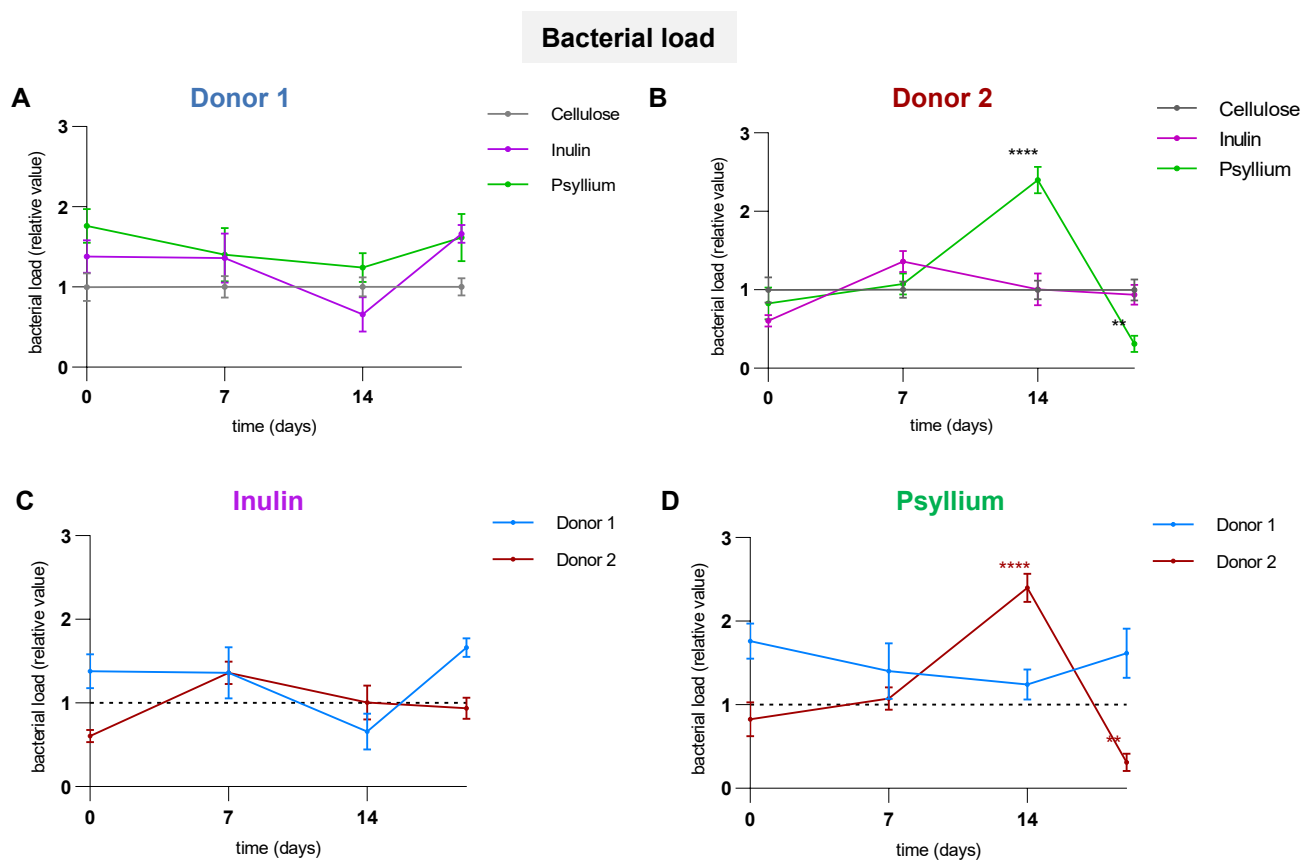
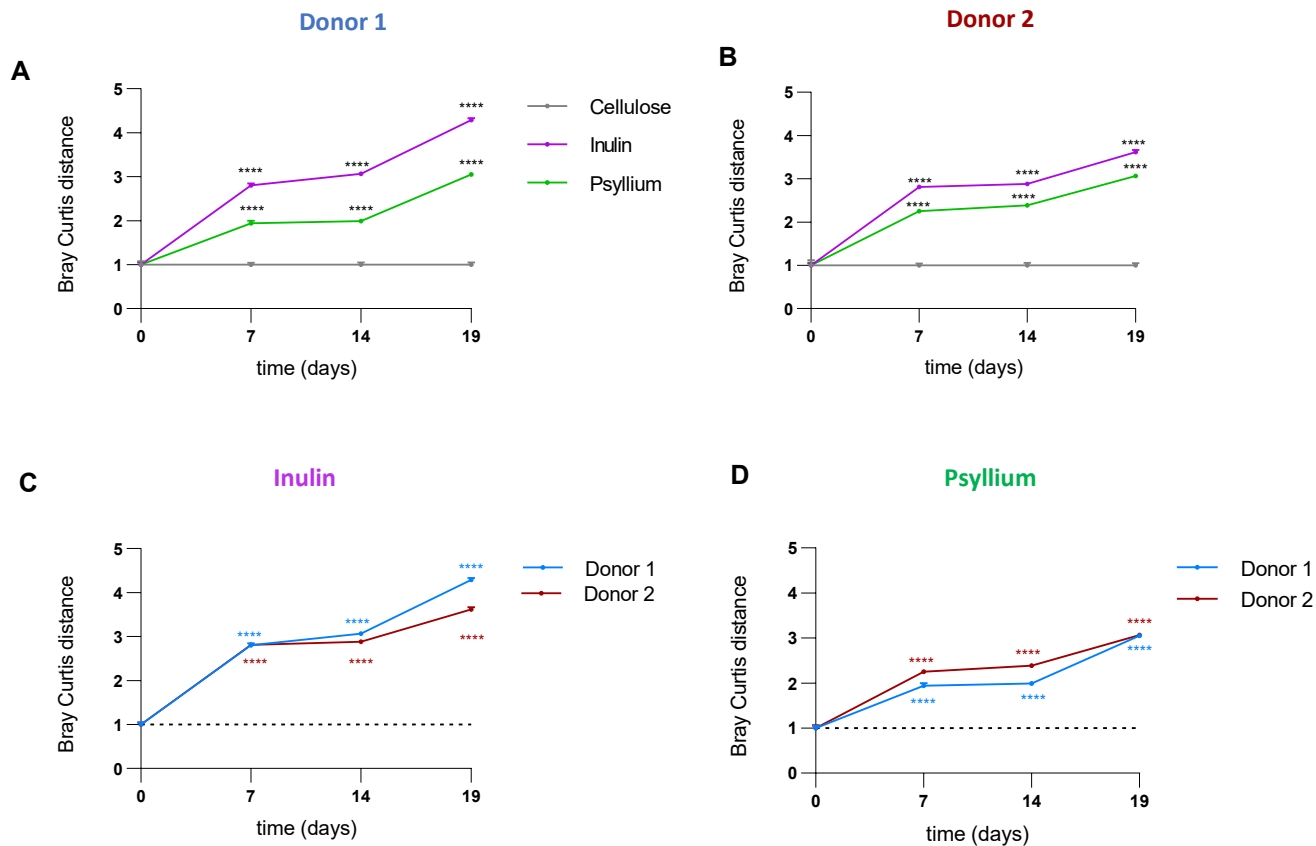


Figure S7. Impact of fibres consumption on intestinal microbiota bacterial load of over time.

Beta diversity – Bray Curtis distance



Alpha diversity – Evenness index

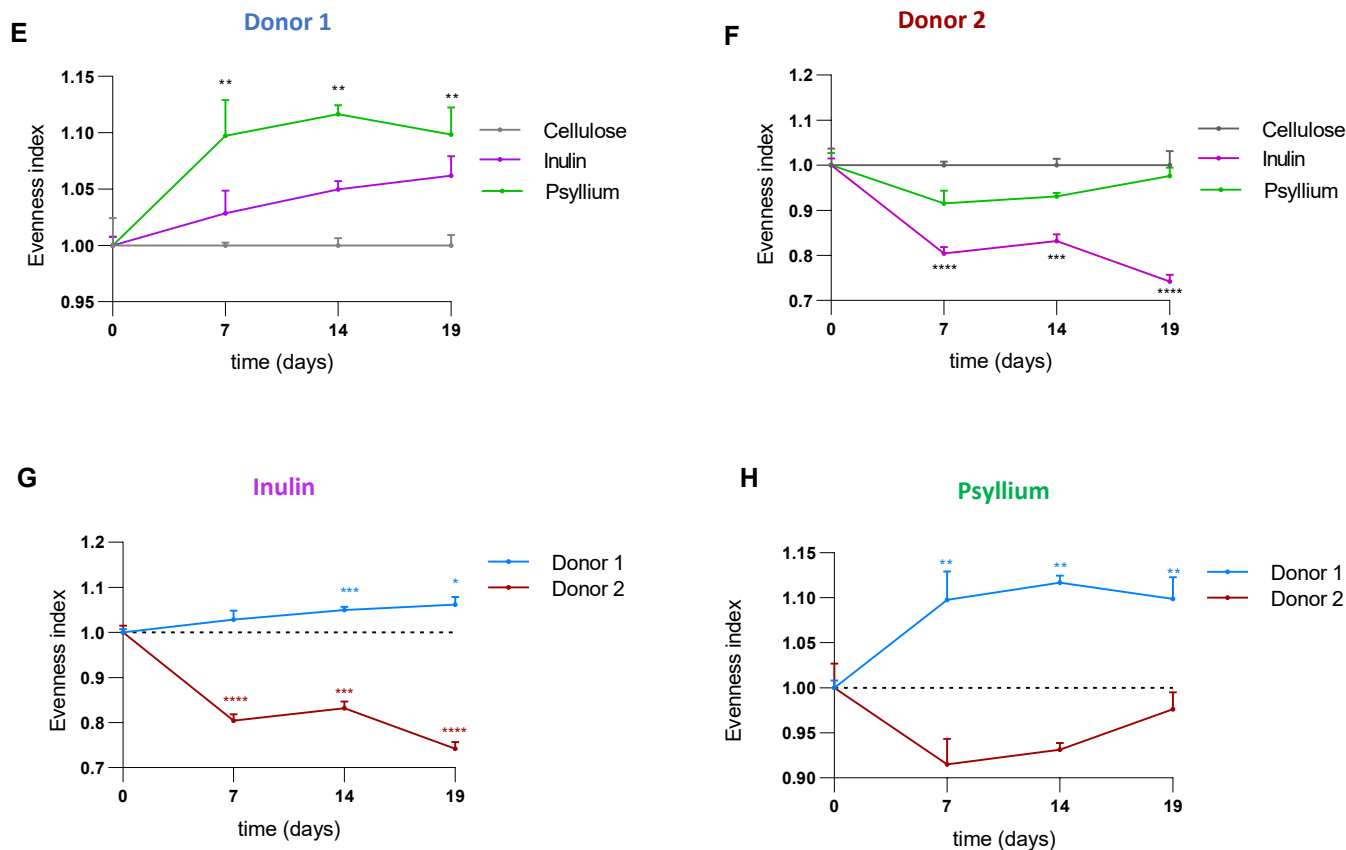
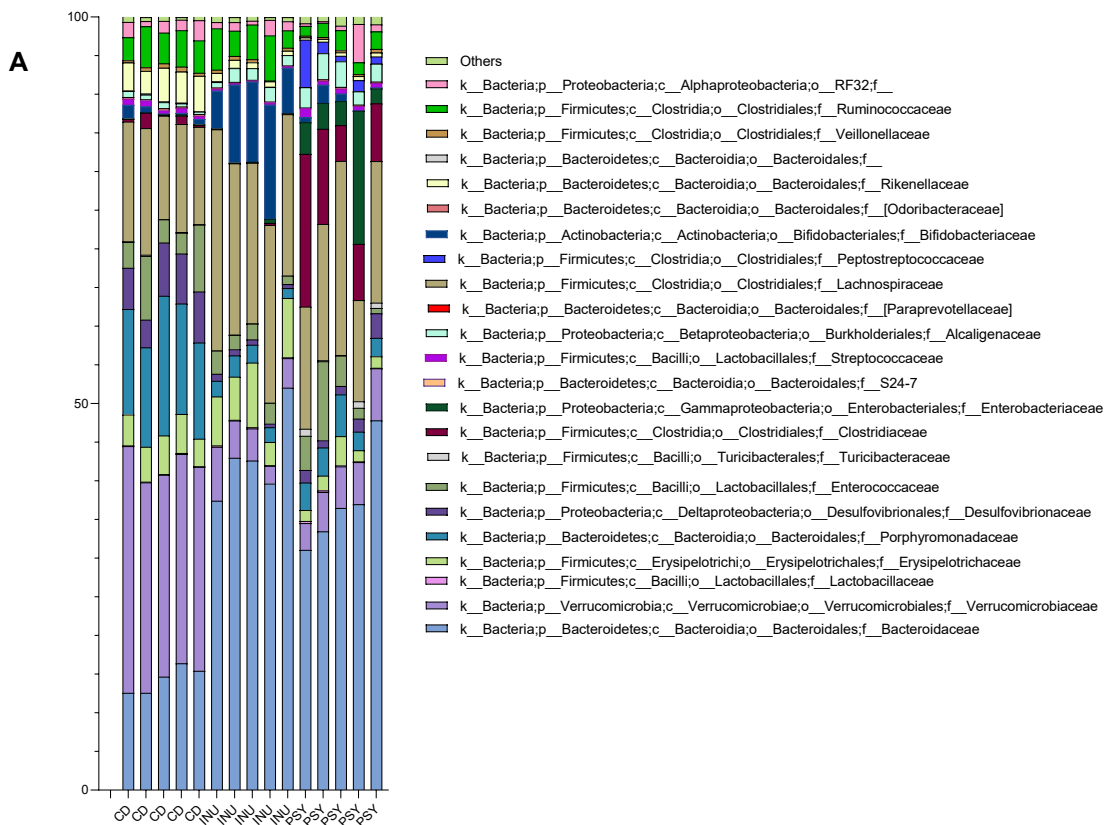


Figure S8. Microbiota composition is differentially impacted by fibres treatment in mice colonized by fibres-resistant and fibres-sensitive donors.

Donor 1 – taxonomy at day 19



Donor 2 - taxonomy at day 19

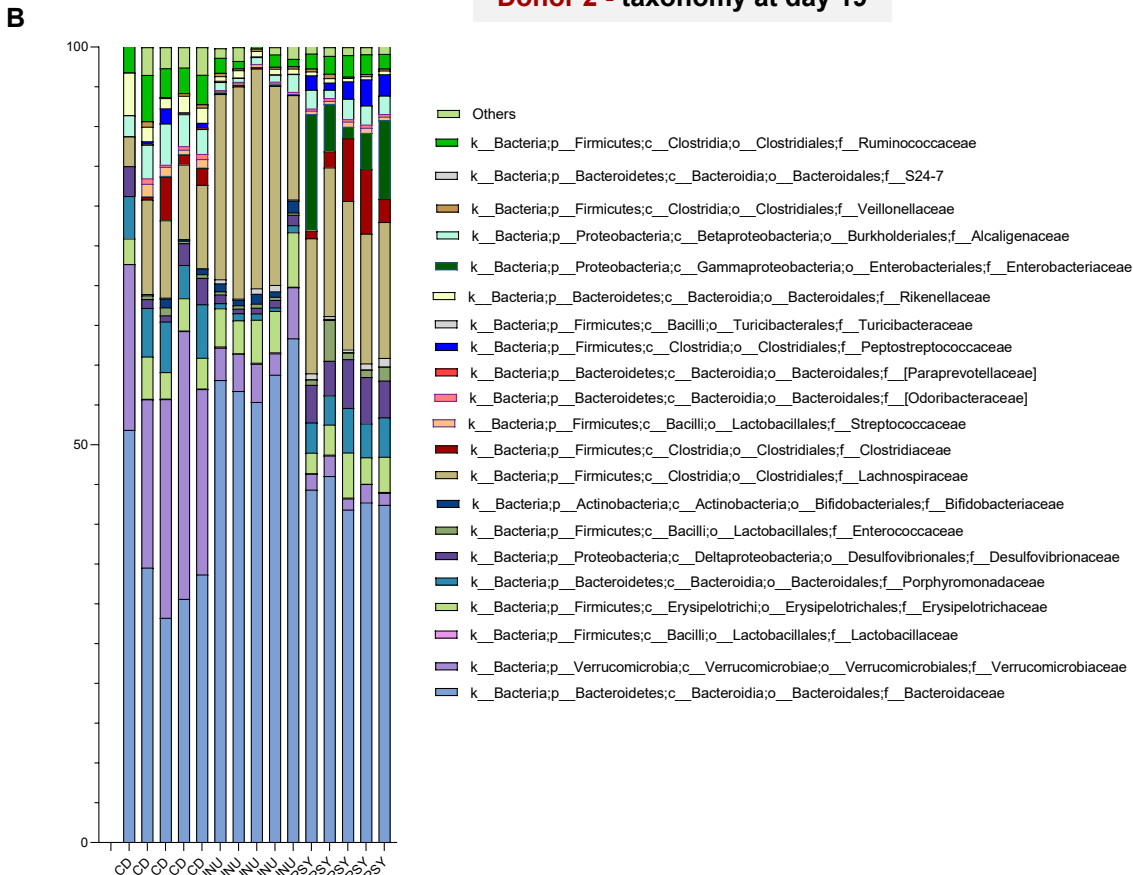
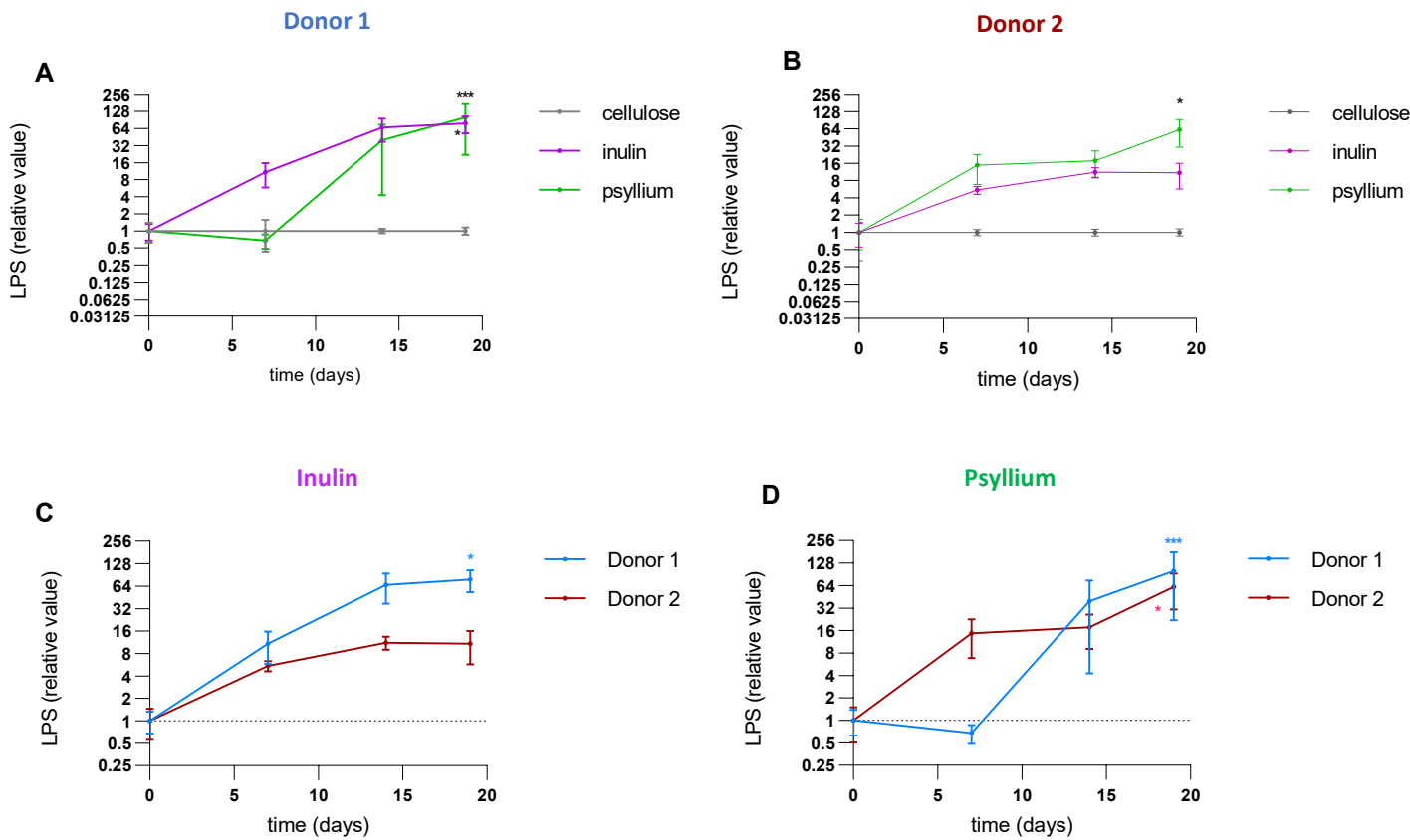


Figure S9. Taxonomic analysis of mice gut microbiota transplanted with Donor 1 and Donor 2 at day 19, prior to DSS exposure

Lipopolysaccharide



Flagellin

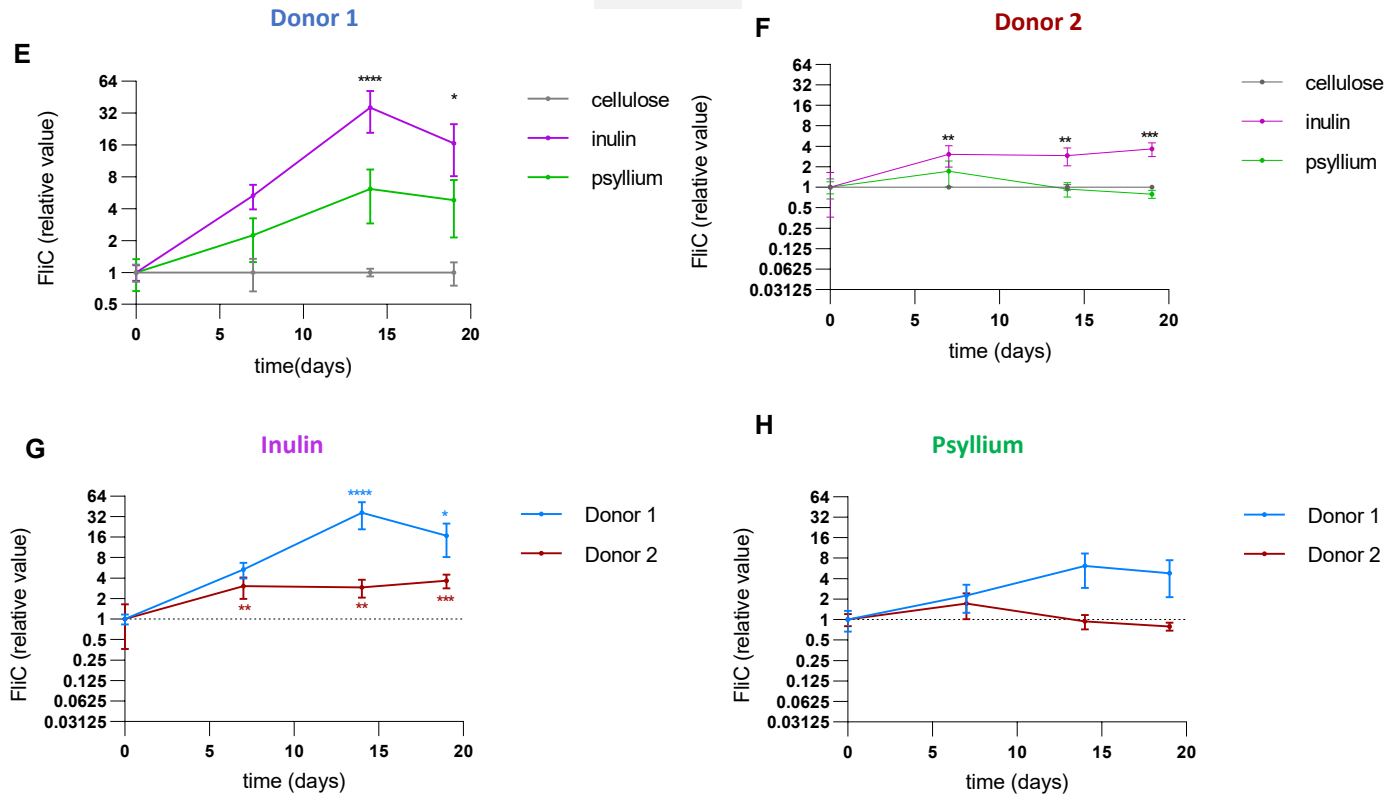


Figure S10. Microbiota pro-inflammatory potential is differentially impacted by fibres treatment in mice colonized by fibres-resistant and fibres-sensitive donors. c

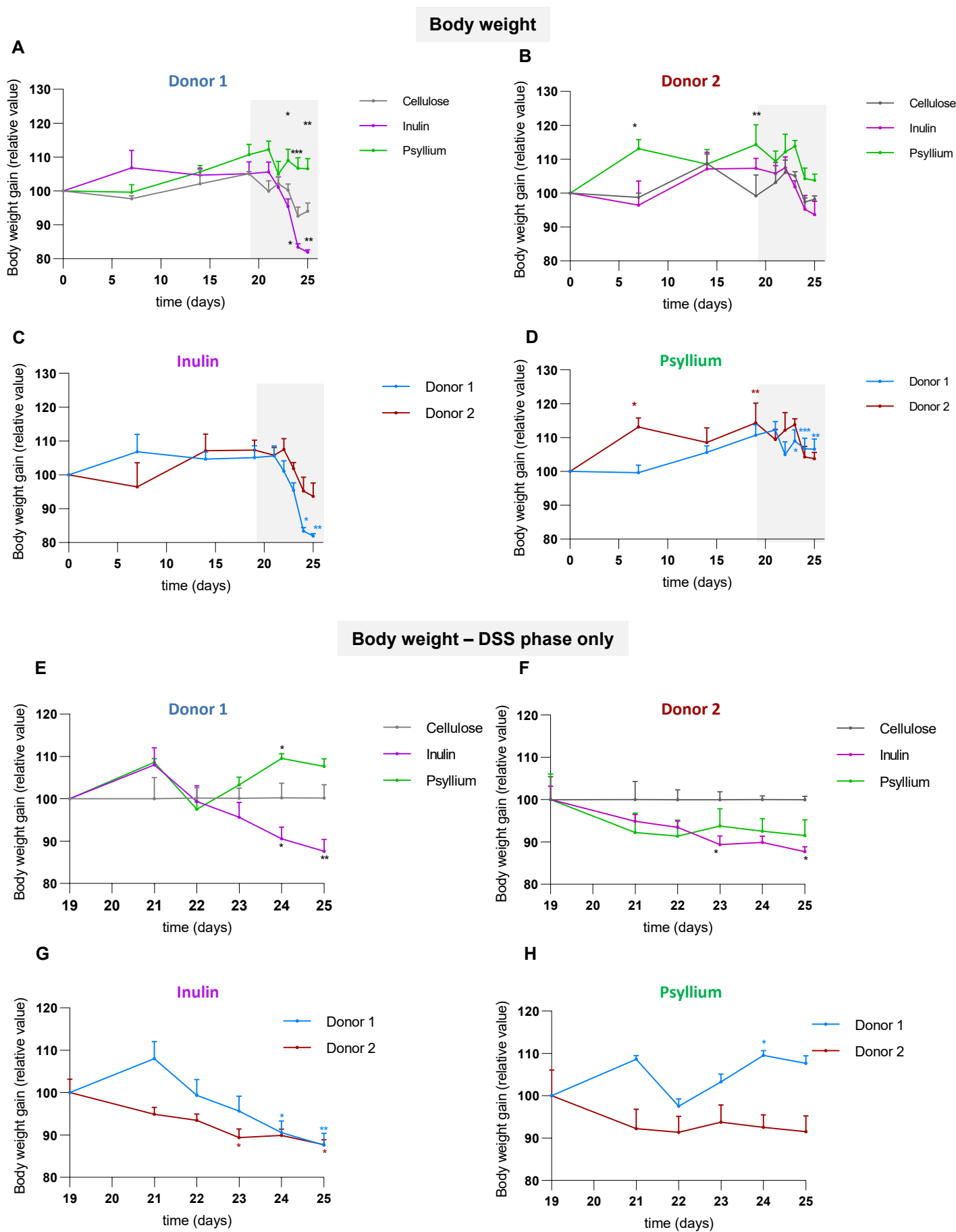


Figure S11. Inter-individual variations in fibres-induced body weight modulation.