



Instituto  
René Rachou  
**FIOCRUZ MINAS**

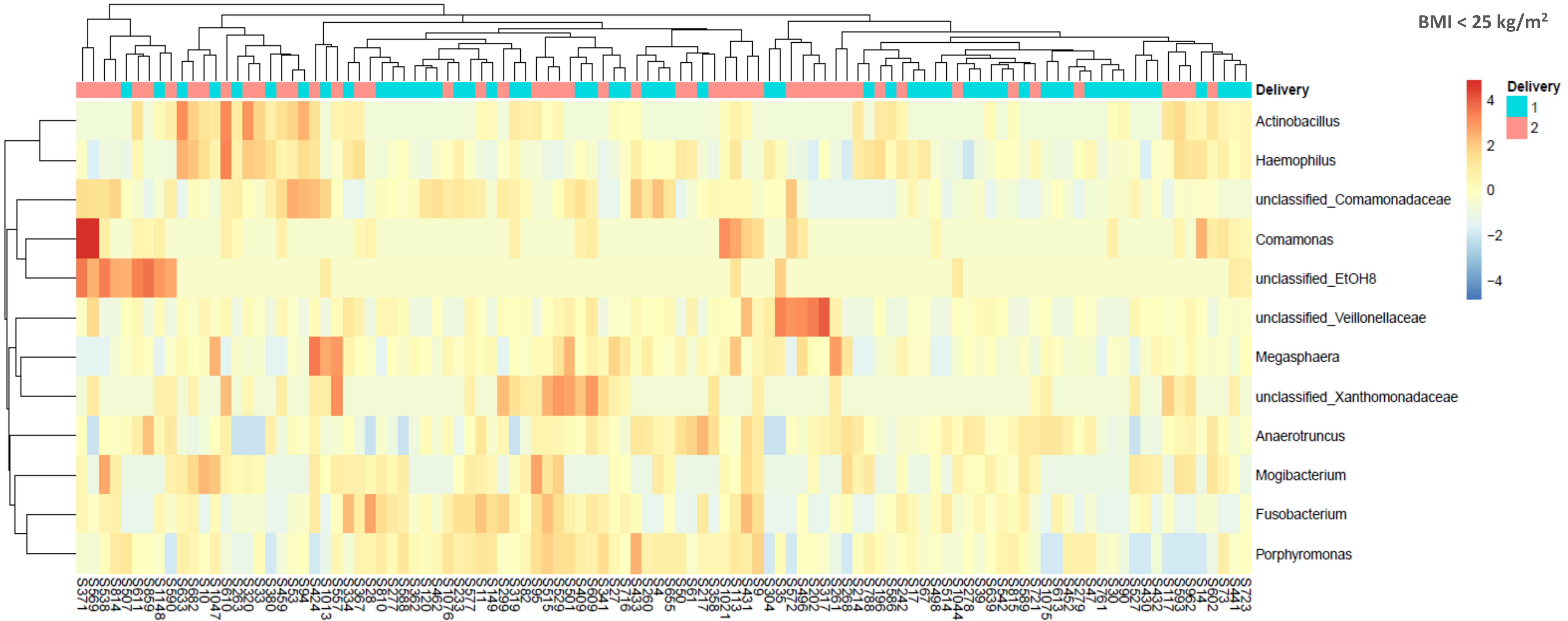


**Exemplo?**

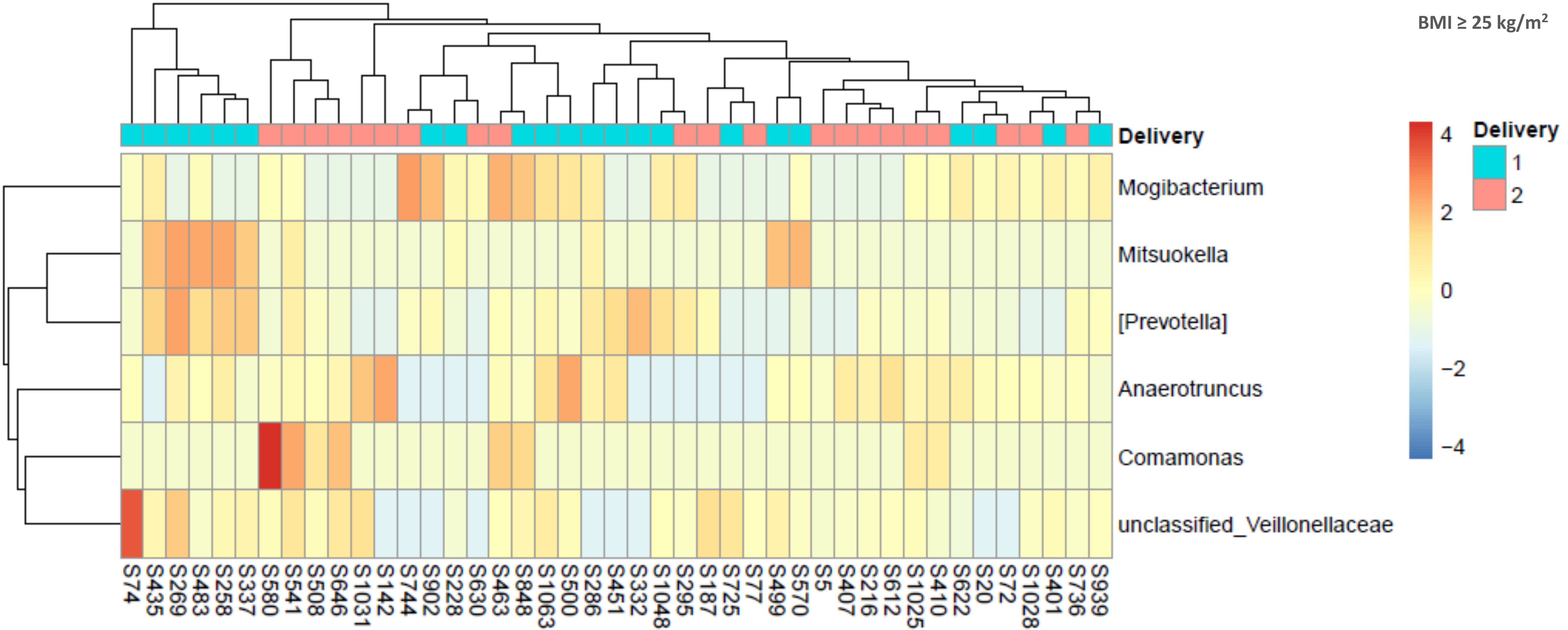
- 150 pacientes
  - tipo de parto
  - IMC ( $>25$ )

	Normal BMI			Elevated BMI		
	Vaginal delivery	Cesarean delivery	p-value	Vaginal delivery	Cesarean delivery	p-value
	n = 55	n = 52		n = 22	n = 21	
Age (years)	25.0 (5.5)	22.8 (4.3)	0.021	28.6 (7.4)	2.,0 (6.2)	0.224
Waist circumference (cm)	72.5 (5.8)	71.3 (4.4)	0.230	93.5 (11.4)	89.8 (11.2)	0.288
Systolic BP (mmHg)	10.6 (11)	107 (12)	0.717	116 (13)	113 (12)	0.198
Diastolic BP (mmHg)	71.1 (8.3)	70.7 (8.6)	0.831	75.5 (10.5)	73.0 (7.3)	0.374
Plasma glucose (mg/dL)	80.1 (9.0)	81.4 (7.7)	0.453	86.4 (11.3)	81.7 (9.1)	0.138
HOMA-IR #	1.8 (0.8)	1.9 (0.9)	0.770	2.0 (1.0)	2.1 (1.0)	0.883
Non-HDL chol (mg/dL)	116 (27)	115 (28)	0.900	119 (46)	123 (32)	0.748
LDL-chol (mg/dL)	99 (26)	99 (27)	0.860	94 (44)	105 (29)	0.351
C-reactive protein (mg/dL)	2.9 (1.3)	3.0 (0.8)	0.160	2.4 (1.2)	2.7 (1.1)	0.513
LPS (pg/mL)	9.6 (3.2)	11.9 (8.3)	0.105	10.7 (4.1)	9.0 (4.2)	0.087

BMI < 25 kg/m<sup>2</sup>



**BMI  $\geq 25$  kg/m<sup>2</sup>**





# Metabolic phenotypes and the gut microbiota in response to dietary resistant starch type 2 in normal-weight subjects: a randomized crossover trial

Lei Zhang<sup>1 2</sup>, Yang Ouyang<sup>3 4</sup>, Huating Li<sup>5</sup>, Li Shen<sup>6</sup>, Yueqiong Ni<sup>7 8</sup>, Qichen Fang<sup>1</sup>, Guangyu Wu<sup>1 2</sup>, Lingling Qian<sup>1 2</sup>, Yunfeng Xiao<sup>9</sup>, Jing Zhang<sup>1 2</sup>, Peiyuan Yin<sup>3</sup>, Gianni Panagiotou<sup>7 8</sup>, Guowang Xu<sup>10</sup>, Jianping Ye<sup>1 11</sup>, Weiping Jia<sup>12</sup>

Affiliations + expand

PMID: 30894560 PMCID: [PMC6426958](#) DOI: [10.1038/s41598-018-38216-9](#)

[Free PMC article](#)

## Abstract

Resistant starch (RS) has been reported to reduce body fat in obese mice. However, this effect has not been demonstrated in humans. In this study, we tested the effects of RS in 19 volunteers with normal body weights. A randomized, double-blinded and crossover design clinical trial was conducted. The study subjects were given either 40 g high amylose RS2 or energy-matched control starch with three identical diets per day throughout the study. The effect of RS was evaluated by monitoring body fat, glucose metabolism, gut hormones, gut microbiota, short-chain fatty acids (SCFAs) and metabolites. The visceral and subcutaneous fat areas were significantly reduced following RS intake. Acetate and early-phase insulin, C-peptide and glucagon-like peptide-1 (GLP-1) secretion were increased, and the low-density lipoprotein cholesterol (LDL-C) and blood urea nitrogen (BUN) levels were decreased after the RS intervention. Based on 16S rRNA sequencing, certain gut microbes were significantly decreased after RS supplementation, whereas the genus *Ruminococcaceae\_UCG-005* showed an increase in abundance. Other potential signatures of the RS intervention included *Akkermansia*, *Ruminococcus\_2*, *Vectivallis*, and *Comamonas*. Moreover, the baseline abundance of the genera *Streptococcus*, *Ruminococcus\_torques\_group*, *Eubacterium\_hallii\_group*, and *Eubacterium\_eligens\_group* was significantly associated with the hormonal and metabolic effects of RS. These observations



# Gut microbiota markers associated with obesity and overweight in Italian adults

Vanessa Palmas <sup># 1</sup>, Silvia Pisanu <sup># 1</sup>, Veronica Madau <sup>1</sup>, Emanuela Casula <sup>1</sup>, Andrea Deledda <sup>2</sup>, Roberto Cusano <sup>3</sup>, Paolo Uva <sup>3</sup>, Sarah Vascellari <sup>1</sup>, Andrea Loviselli <sup>2</sup>, Aldo Manzin <sup># 4</sup>, Fernanda Velluzzi <sup># 2</sup>

Affiliations <sup>+</sup> expand

PMID: 33750881 PMCID: [PMC7943584](#) DOI: [10.1038/s41598-021-84928-w](#)

[Free PMC article](#)

## Abstract

In the present study, we characterized the distinctive signatures of the gut microbiota (GM) from overweight/obese patients (OB), and normal-weight controls (NW), both of Sardinian origin. Fecal bacterial composition of 46 OB patients (BMI =  $36.6 \pm 6.0$ ; F/M = 40/6) was analyzed and compared to that of 46 NW subjects (BMI =  $21.6 \pm 2.1$ ; F/M = 41/5), matched for sex, age and smoking status, by using 16S rRNA gene sequencing on MiSeq Illumina platform. The gut microbial community of OB patients exhibited a significant decrease in the relative abundance of several Bacteroidetes taxa (i.e. Flavobacteriaceae, Porphyromonadaceae, Sphingobacteriaceae, Flavobacterium, Rikenella spp., Pedobacter spp., Parabacteroides spp., Bacteroides spp.) when compared to NW; instead, several Firmicutes taxa were significantly increased in the same subjects (Lachnospiraceae, Gemellaceae, Paenibacillaceae, Streptococcaceae, Thermicanaceae, Gemella, Mitsuokella, Streptococcus, Acidaminococcus spp., Eubacterium spp., Ruminococcus spp., Megamonas spp., Streptococcus, Thermicanus, Megasphaera spp. and Veillonella spp.). Correlation analysis indicated that body fatness and waist circumference negatively correlated with Bacteroidetes taxa, while Firmicutes taxa positively correlated with body fat and negatively with

- 150 pacientes
  - tipo de parto
  - IMC (>25)

## Gut microbiota markers associated with obesity and overweight in Italian adults

Vanessa Palmas <sup># 1</sup>, Silvia Pisanu <sup># 1</sup>, Veronica Madau <sup>1</sup>, Emanuela Casula <sup>1</sup>, Andrea Deledda <sup>2</sup>, Roberto Cusano <sup>3</sup>, Paolo Uva <sup>3</sup>, Sarah Vascellari <sup>1</sup>, Andrea Loviselli <sup>2</sup>, Aldo Manzin <sup># 4</sup>, Fernanda Velluzzi <sup># 2</sup>

Affiliations + expand

PMID: 33750881 PMCID: [PMC7943584](#) DOI: [10.1038/s41598-021-84928-w](#)


[Free PMC article](#)

### Abstract

In the present study, we characterized the distinctive signatures of the gut microbiota (GM) from overweight/obese patients (OB), and normal-weight controls (NW), both of Sardinian origin. Fecal bacterial composition of 46 OB patients (BMI =  $36.6 \pm 6.0$ ; F/M = 40/6) was analyzed and compared to that of 46 NW subjects (BMI =  $21.6 \pm 2.1$ ; F/M = 41/5), matched for sex, age and smoking status, by using 16S rRNA gene sequencing on MiSeq Illumina platform. The gut microbial community of OB patients exhibited a significant decrease in the relative abundance of several Bacteroidetes taxa (i.e. Flavobacteriaceae, Porphyromonadaceae, Sphingobacteriaceae, Flavobacterium, Rikenella spp., Pedobacter spp., Parabacteroides spp., Bacteroides spp.) when compared to NW; instead, several Firmicutes taxa were significantly increased in the same subjects (Lachnospiraceae, Gemellaceae, Paenibacillaceae, Streptococcaceae, Thermicanaceae, Gemella, **Mitsuokella**, Streptococcus, Acidaminococcus spp., Eubacterium spp., Ruminococcus spp., Megamonas spp., Streptococcus, Thermicanus, Megasphaera spp. and Veillonella spp.). Correlation analysis indicated that body fatness and waist circumference negatively correlated with Bacteroidetes taxa, while Firmicutes taxa positively correlated with body fat and negatively with




# Whaaaat???




Ready to Spin!

or...

Edit Wheel





Ready to Spin!

or...

Edit Wheel

