



**Class**

N,N,N-trimethyl-L-allylcholine betaine (MAP)  
 N,N,N-trimethyl-L-glutamine  
 2-hydroxy-4-methylthiobutanoic acid  
 arginine  
 creatine  
 creatinine  
 palmitoyl carnitine (C16)  
 cholate  
 inositol-ethanolamide  
 inositol-ethanolate  
 tyramine

sphingomyelin (d18:0/16:0)  
 urate  
 stearate  
 xylitol  
 xyluronic acid  
 indazole-lactate  
 N-acetyl-L-cysteine  
 N-palmitoyl-sphingosine (d18:1/16:0)

2-deoxyxiphenosine  
 phenolic acid  
 hexonic acid  
 2-hydroxyphenolate  
 3-methylalopate  
 2-hydroxyphenolate  
 pentadecanoate (15:0)  
 valeric acid  
 N-acetylglucosamine  
 X-25546  
 biotin

lithocholate  
 X-25547  
 X-25548  
 4-cholesten-3-one  
 indolin-2-one  
 3-methylalopate  
 N,N,N-trimethyl-5-aminovalerate  
 1-methyl-5-imidazoleacetate

*Ruthenbacterium lactatiformans*  
*Faecalibacterium prausnitzii*  
*Alistipes inops*  
*Akkermansia muciniphila*  
*Eubacterium staeuflii*  
*Oscillatoria CAG\_241*  
*Alistipes indistinctus*  
*Methanoregibacter smithii*  
*Firmicutes bacterium CAG\_110*  
*Streptococcus mutans*  
*Escherichia coli*  
*Roseburia intestinalis*  
*Roseburia faecis*  
*Dorea longicatena*  
*Bacteroides massiliensis*  
*Actinomyces odontolyticus*  
*Bacteroides dorei*  
*Bacteroides cellulosilyticus*  
*Bacteroides xylanisolvens*  
*Bacteroides stercoris*  
*Ruminococcus lactaris*  
*Lachnospira pectinoschiza*  
*Eubacterium CAG\_274*  
*Streptococcus thermophilus*  
*Ruminococcus torques*  
*Bacteroides ovatus*  
*Bifidobacterium pseudocatenulatum*  
*Eubacterium ventriosum*  
*Bacteroides fragilis*  
*Bacteroides thetaiotaomicron*  
*Clostridium CAG\_38*  
*Streptococcus vestibularis*  
*Actinomyces oris*  
*Roseburia CAG\_471*  
*Erysipelatoclostridium ramosum*  
*Turicibacter sanguinis*  
*Romboutsia leialis*  
*Clostridium disporicum*  
*Intestinibacter bartlettii*  
*Eubacterium rectale*  
*Parasutterella excrementihominis*  
*Clostridium spiroforme*  
*Dialister inuis*  
*Actinomyces ICM47*  
*Clostridium bolea*  
*Collinsella intestinalis*  
*Collinsella aerofaciens*  
*Streptococcus salivarius*  
*Bifidobacterium CAG\_39*  
*Bifidobacterium adolescentis*  
*Bacteroides vulgatus*  
*Bacteroides caecae*  
*Paraprevotella xylaniphila*  
*Holdemanella bififormis*  
*Bifidobacterium longum*  
*Bifidobacterium bifidum*  
*Gemmiger formicilis*  
*Eubacterium CAG\_180*  
*Parabacteroides merdae*  
*Parabacteroides distasonis*  
*Slackia isoaltoniconvertens*  
*Prevotella copri*  
*Eubacterium ramulus*  
*Agathobacterium butyriciproducens*  
*Friscatenibacter saccharivorans*  
*Roseburia inulinivorans*  
*Eubacterium hallii*  
*Olsenella scatigines*  
*Enorma massiliensis*  
*Ruminococcus bromii*  
*Monoglobus pectiniycticus*  
*Oscillibacter 57\_20*  
*Coproccoccus eufactus*  
*Clostridium CAG\_167*  
*Gordonia bacterium panislaese*  
*Enterorhabdus caecimuris*  
*Sellimonas intestinalis*  
*Eggerthella lenta*  
*Clostridium innocuum*  
*Flavonifractor plautii*  
*Blautia CAG\_257*  
*Coproccoccus comes*  
*Bacteroides uniformis*  
*Coproccoccus catus*  
*Blautia obeum*  
*Dorea formicigenans*  
*Blautia weckeri*  
*Anserinus hadius*  
*Odobacter splanchnicus*  
*Alistipes inegoldii*  
*Barnesiella intestinalis*  
*Alistipes shahii*  
*Alistipes putredinis*  
*Blautia wadsworthia*  
*Roseburia hominis*  
*Firmicutes bacterium CAG\_83*  
*Ruminococcus bicirculans*  
*Eubacterium eligens*  
*Firmicutes bacterium CAG\_94*  
*Anaeromassiliibacillus\_An250*  
*Clostridium leptum*  
*Asaccharobacter celatus*  
*Adiferrouzita equolifaciens*  
*Lawsonibacter asaccharolyticus*  
*Streptococcus parasanguinis*  
*Ruminococcus gnavus*  
*Veillonella parvula*

**Suppl. Figure 6. Heatmap showing co-occurrence of metabolites and bacteria in faeces.** Heatmap showing two distinct patterns between the presence of bacteria and the levels of metabolites. Metabolites on the x-axis are annotated according to the pathway annotation provided by Metabolon. On the y-axis, bacteria are annotated based on their taxonomic class. Clustering is based on the regression coefficient derived from the relation between metabolite levels and detection/absence of a species in faecal samples. Red cells indicate positive associations and blue cells a negative associations. White cells represent non-significant associations. For readability, only the labels of certain metabolites are shown.