

## Supplementary Material

Figure S1: Description of the main phyla and species altered in neurodegenerative diseases. Arrows represent increase and/or decrease compared to healthy controls, according to the literature.

Phylum	Dysbiosis in AD	Dysbiosis in PD	Dysbiosis in MS	Dysbiosis in ALS
Firmicutes	↓ <i>Eubacterium Clostridium</i>	↑ Lachnospiraceae	↓ <i>Faecalibacterium</i>	↓ <i>Megamonas</i>
	↓ <i>Roseburia hominis</i>	↑ <i>Peptostreptococcaceae</i>		
	↓ <i>Faecalibacterium prausnitzii</i>	↑ ↓ <i>Clostridiaceae</i>		↓ <i>Butyrivibrio fibrisolvens</i>
	↓ <i>Butyrivibrio</i>	↑ ↓ <i>Tissierellaceae</i>		
		↑ <i>Desulfotomaculum</i>	↑ <i>Ruminococcus</i>	↓ <i>Roseburia</i>
	↑ <i>Clostridium</i>	↑ <i>Planococcaceae</i>		
	↑ <i>Bacillus subtilis</i>	↑ <i>Granulicatella</i>		↓ <i>Eubacterium rectale</i>
	↑ <i>Staphylococcus aureus</i>	↑ ↓ <i>Staphylococcaceae</i>		
Bacteroidetes		↑ ↓ <i>Roseburia</i>		
		↑ ↓ <i>Lachnospiraceae</i>		
Proteobacteria	↑ <i>Porphyromonas gingivalis</i>	↓ ↑ <i>Prevotellaceae</i>	↓ ↑ <i>Prevotellaceae</i>	↑ <i>Bacteroidetes</i>
		↓ ↑ <i>Paraprevotellaceae</i>		
	↑ <i>Helicobacter pylori</i>	↑ <i>Helicobacter pylori</i>		
	↑ <i>Escherichia coli</i>			
	↑ <i>Escherichia-Shigella</i>	↑ <i>Burkholderiales</i>		
Actinobacteria	↑ <i>Salmonella Typhimurium</i>	↑ <i>Oxalobacteraceae</i>		
	↑ <i>Pseudomonas fluorescens</i>			
Spirochaetae		↑ <i>Atopobium</i>		
	↓ <i>Actinobacteria</i>	↑ <i>Bifidobacterium pseudolongum</i>		
Chlamydia	↑ <i>Borrelia burgdorferi</i>			
	↑ <i>Treponema pallidum</i>			
Enterobacteriaceae	↑ <i>Chlamydia pneumoniae</i>	↑ <i>Enterobacteriaceae</i>		
Verrucomicrobia			↑ <i>Akkermansia muciniphila</i>	
Cyanobacteria			↑ <i>Cyanobacteria</i>	