

Table S3. Individual microbial genera association with regional GMV by multivariable linear regression with age and sex as covariates.

Brain Region	Genus	β	p-value
Hippocampus	p__Bacteroidetes; c__Bacteroidia; o__Bacteroidales; f__Muribaculaceae; g__	.421	.189
Hippocampus	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae_1; g__Clostridium_sensu_stricto_1	.443	.097
Hippocampus	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Family_XIII; g__Family_XIII_AD3011_group	.700	.024*
Hippocampus	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Ruminococcaceae; g__	.856	.002**
Hippocampus	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Ruminococcaceae; g__Oscillibacter	.805	.001**
Hippocampus	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Ruminococcaceae; g__Ruminococcaceae_UCG-010	.483	.154
Hippocampus	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Ruminococcaceae; g__Subdoligranulum	.559	.090
Amygdala	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Lachnospiraceae; g__Lachnospiraceae_NK4A136_group	.897	.017*
Amygdala	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Ruminococcaceae; g__Oscillibacter	1.055	.00008***
NAcc	p__Bacteroidetes; c__Bacteroidia; o__Bacteroidales; f__Muribaculaceae; g__	.361	.336
NAcc	p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae_1; g__Clostridium_sensu_stricto_1	.461	.138

Normalized count of individual genera identified from DESeq2 analysis (depicted in Figure 2A) were regularized log transformed (rlog) for the linear regression. GMV regions include hippocampus, amygdala, and nucleus accumbens. β = standardized regression coefficient. P-value less than 0.05 uncorrected are bolded.