

**Supplementary Table 3:** Permutational multivariate analysis of variance (PERMANOVA) tests of the bacterial and fungal gut microbiota on the unweighted and weighted UniFrac distances and the Bray-Curtis dissimilarity according to the severity of the autistic phenotype.

| Bacterial microbiota                        | Metric             | F    | R <sup>2</sup> | <i>p-value</i> |
|---------------------------------------------|--------------------|------|----------------|----------------|
| AD severe (n=36)<br>vs<br>AD moderate (n=4) | Unweighted Unifrac | 1.04 | 0.02           | 0.43           |
|                                             | Weighted Unifrac   | 1.19 | 0.03           | 0.27           |
|                                             | Bray-Curtis        | 1.27 | 0.03           | 0.24           |

  

| Fungal microbiota                           | Metric             | F    | R <sup>2</sup> | <i>p-value</i> |
|---------------------------------------------|--------------------|------|----------------|----------------|
| AD severe (n=31)<br>vs<br>AD moderate (n=4) | Unweighted Unifrac | 0.44 | 0.01           | 0.92           |
|                                             | Weighted Unifrac   | 0.77 | 0.02           | 0.52           |
|                                             | Bray-Curtis        | 0.54 | 0.01           | 0.69           |