



**Figure S12. Distribution of the KOs involved in butyrate formation module in relation to mouse strain and diet.** The relative abundance of enzymes involved in butyrate formation was calculated at the KO level. The majority of the KOs exhibited a higher abundance in Sv129 mice compared with BL6 mice, irrespective of the diet. Statistical differences were analyzed by unpaired Wilcoxon Rank-Sum test (with FDR correction). Statistically significant differences ( $P < 0.05$ ) between groups are denoted with different letters (a, b, c, d) on the top of the graphic boxes.