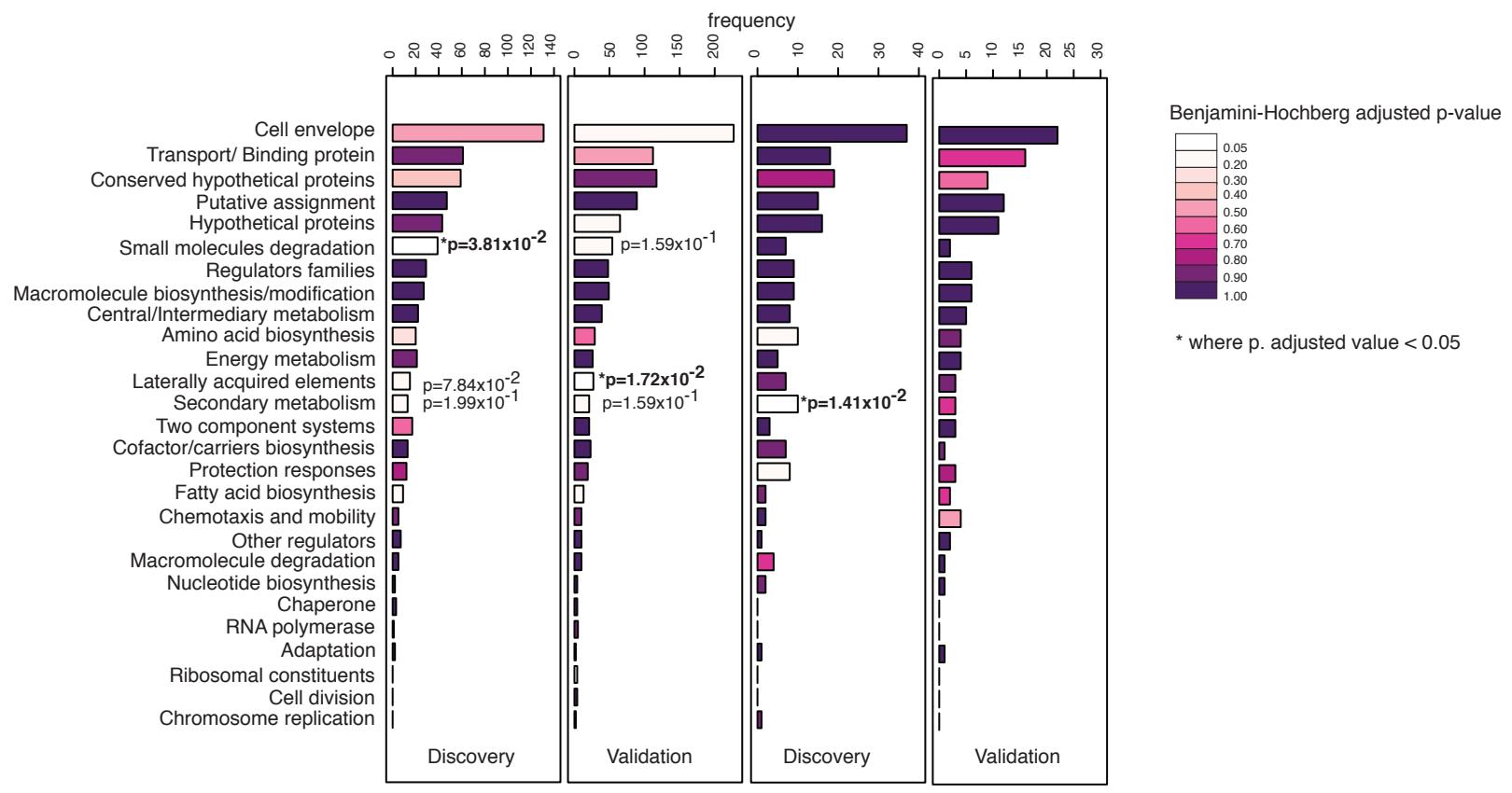
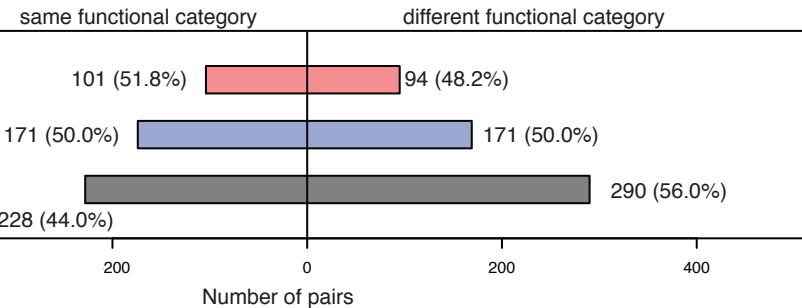
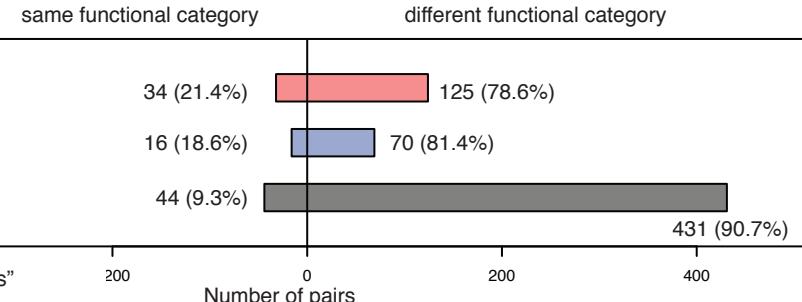


Extended Data Figure 3

**a****b cis co-selected gene-gene pairs**Discovery  
n=195 pairs (139 pairs excluded)Validation  
n= 342 pairs (252 pairs excluded)Randomised  
n= 518 pairs (428 pairs excluded)Discovery vs Randomised  
Two sided Fisher Exact's Test p-val = 0.0645Validation vs Randomised  
Two sided Fisher Exact's Test p-val = 0.0937**c trans co-selected gene-gene pairs**Discovery  
n = 159 pairs (93 pairs excluded)Validation  
n = 86 pairs (49 pairs excluded)Randomised  
n = 475 pairs (525 pairs excluded)Discovery vs Randomised\*\*  
Two sided Fisher Exact's Test p-val = 1.35 x 10<sup>-4</sup>Validation vs Randomised\*  
Two sided Fisher Exact's Test p-val = 0.0138

Pairs excluded comprise less well annotated genes with terms "Conserved hypothetical/hypothetical proteins" or "putative assignment"