

**Table S5. Spearman correlation for characteristics of orthologous hubs in Yeast-hq and Human-hq.**

characteristic	$\rho$	p-val	empirical p-val
avPCC	<b>0.23</b>	0.005	0.001
clustering	<b>0.62</b>	$7e-17$	$< 0.001$
betweenness	<b>0.53</b>	$6e-12$	$< 0.001$
participation	<b>0.58</b>	$2e-14$	$< 0.001$
func. sim	<b>0.49</b>	$4e-10$	$< 0.001$

Five hub characteristics for all 149 orthologous pairs between 109 hubs in **Yeast-hq** and 124 hubs in **Human-hq** are significantly positively correlated, as measured by Spearman's rho ( $\rho$ ) and the correspondingly determined p-values and empirical p-values for 1000 random permutations of hubs. See main text and **Materials and methods** for details.