

Supplementary Table 7. Basis of annotation predictions

Using the between-pathway models, 745 annotations were predicted with an estimated accuracy of 63%. Conversely, 285 annotations were predicted using the within-pathway models with an estimated accuracy of 69%. Are these functional predictions based mainly on physical interactions, or do they require the genetic network also? To address this question, we looked for dense subnetworks of interactions in the physical network separately (analogous to the within-pathway search but scoring only one interaction type - see Methods). Of the above 745 between-pathway annotations, 194 were also predicted from significant physical pathways alone. In the case of the within-pathway search, there are only 29 such predictions. The remaining predictions rely, at least in part, on genetic evidence for support. Considering these remaining predictions only, cross-validation accuracy was 50% and 59% for between- vs. within-pathway models. In this table, the "Model" column delineates which type of model was used to generate the prediction. The "Search" column tells whether the annotations were predicted only from the combined physical/genetic search. The "Count" and "Accuracy" columns give these values for the various sets of annotations.

Model	Search	Count	Accuracy
Between-Pathway	Combined	745	63%
	Combined Only	551	50%
Within-Pathway	Combined	285	69%
	Combined Only	256	59%

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