

P025 Characterizing subunit interactions within eIF2B in
Saccharomyces cerevisiae
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Translation initiation factor 2B (eIF2B) is an essential multi-subunit guanine nucleotide exchange factor (GEF). It is required for the regeneration of active eIF2-GTP at each round of translation initiation in all eukaryotic cells and is regulated via phosphorylation of eIF2. Mutations in all the subunits of eIF2B have been linked with a fatal brain disease called VWM or CACH. Previous study has shown that this factor can be sub-divided into catalytic (ϵ and γ subunits) and regulatory (α , β and δ subunits) subcomplexes. Subunits within these subcomplexes share extensive sequence homology. Little is known about subunit-subunit interaction with this translation factor. The catalytic subunits (ϵ and γ) share ~ 3 domains of sequence homology. To elucidate the interaction domains within this subcomplex, fragments of eIF2B ϵ containing one or more domains have been generated to assess binding to the γ subunit *in vivo* using immunoprecipitation. As a complementary approach to examine subunit interactions, we have made strains over-expressing different combinations of four subunits of eIF2B. We are assessing whether novel subcomplexes can form *in vivo* by immunoprecipitation. These two approaches will give further insight into protein interactions and complex stability within eIF2B.