

**P007** Multiple KH domain-containing proteins antagonise eIF2B  
*in vivo*

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Eukaryotic translation initiation factor 2B (eIF2B) plays a critical role in the control of gene expression in response to cellular stresses and is an essential guanine nucleotide exchange factor. Mutations in eIF2B cause a fatal human brain disease. The aim of this project is to identify and characterise novel eIF2B interacting/regulatory proteins in yeast.

A high-throughput micro-array based strategy was employed to screen for eIF2B mutant suppressors. Scp160p was one of over 15 genes identified by the barcode array as a potential negative regulator of eIF2B activity. Deletion of *SCP160* restores normal growth rate to a strain expressing a mutated eIF2B allele that otherwise confers a slow-growth phenotype. Scp160p is a large protein that contains 14KH domains; multi KH domain proteins are thought to act as gene-specific translational regulators, aid mRNA localisation and mRNA stability in different organisms. We assessed whether loss of other multi-KH domain containing proteins similarly impacted on eIF2B requirement and found one positive and two negative regulators of eIF2B.

Automated screening of yeast growth in strains that are translationally compromised, drug sensitivity analysis and investigation into general control of amino acid regulation using *GCN4* reporter assays has allowed us to prescribe a role in translation initiation to a number of genes that were previously uncharacterised.