

**P017** Investigation into the canonical translation factor requirements of cellular IRESs

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Regulation of gene expression at the level of translation provides a rapid response to external stimuli. Translational regulation occurs via various mechanisms including internal ribosome entry. Internal Ribosome Entry Segments (IRESs) are regions of secondary structure within the 5'UTR that recruit the ribosome independently of the 5' cap, and can maintain translation of specific genes during global translational down-regulation. The aim of this study is to investigate the canonical translation initiation factor requirements of cellular IRESs using several approaches. A fractionated reticulocyte lysate system has been used extensively in the past to study cap-dependent translation *in vitro* and the aim is to apply this system to study of the IRES-mediated mechanism. In addition, various mutant eIF4G constructs have been designed that are defective in binding sites for eIF4E, 4A and PABP. These mutants will be used, after knockdown of wild-type eIF4G, to study the effects of the absence of these factors on IRES activity in di-cistronic reporter assays.