

**P007** GRIF-1/kinesin-1 interactions: a confocal microscopy study  
Karine Pozo, Ana M. Salgueiro and F. Anne Stephenson  
*School of Pharmacy, University of London,  
London WC1N 1AX, UK.*

GABA<sub>A</sub> receptor interacting factor (GRIF-1) is a member of a coiled-coil family of proteins thought to function as adaptors in the anterograde trafficking of organelles to synapses utilizing the kinesin-1 motor proteins. To study in more detail the molecular interaction between GRIF-1 and the KIF5C kinesin-1 heavy chain, fluorescent yellow and fluorescent cyan tagged GRIF-1, KIF5C, the KIF5C motor domain and the KIF5C non-motor domain fusion proteins were generated. Each was characterized with respect to size and ability to co-associate by immunoprecipitation following expression in HEK 293 cells. Further, their respective distributions in single and double transfections of HEK 293 and COS7 cells were analyzed by confocal microscopy. The fluorescent GRIF-1 and KIF5C fusion proteins were all found to behave as wild-type in immunoprecipitation assays. Immunofluorescent studies revealed that GRIF-1 and KIF5C co-localized in both HEK 293 and COS7 transfected cells. Furthermore, the GRIF-1/KIF5C and GRIF-1/KIF5C non-motor domain double transfectants showed different subcellular distributions compared to single GRIF-1, KIF5C or KIF5C non-motor domain transfections. These studies confirm the association between GRIF-1 and kinesin-1 non-motor domains. FRET studies are ongoing to characterize this interaction in more detail.

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