

eIF4G (40): sc-136142

BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. The eukaryotic initiation complex eIF4F exists *in vitro* as a trimeric complex of eIF4G, eIF4E, and eIF4A. Together, the complex allows ribosome binding to mRNA by inducing the unwinding of mRNA secondary structures. eIF4E binds to the mRNA "cap" during an early step in the initiation of protein synthesis. eIF4A acts as an ATP-dependent RNA helicase. eIF4G acts as a bridge between eIF4E, eIF4A, and the eIF3 complex.

REFERENCES

1. Rychlik, W., et al. 1987. Amino acid sequence of the mRNA cap-binding protein from human tissues. *Proc. Natl. Acad. Sci. USA* 84: 945-949.
2. Reddy, N.S., et al. 1988. Isolation and mapping of a gene for protein synthesis initiation factor 4A and its expression during differentiation of murine erythroleukemia cells. *Gene* 70: 231-243.
3. Rozen, F., et al. 1990. Bidirectional RNA helicase activity of eucaryotic translation initiation factors 4A and 4F. *Mol. Cell. Biol.* 10: 1134-1144.
4. Jaramillo, M., et al. 1991. RNA unwinding in translation: assembly of helicase complex intermediates comprising eukaryotic initiation factors eIF4F and eIF4B. *Mol. Cell. Biol.* 11: 5992-5997.
5. Scheper, G.C., et al. 1992. Eukaryotic initiation factors-4E and -4F stimulate 5' cap-dependent as well as internal initiation of protein synthesis. *J. Biol. Chem.* 267: 7269-7274.
6. Yan, R., et al. 1992. Amino acid sequence of the human protein synthesis initiation factor eIF4 γ . *J. Biol. Chem.* 267: 23226-23231.
7. Merrick, W.C. 1994. Eukaryotic protein synthesis: an *in vitro* analysis. *Biochimie* 76: 822-830.
8. Lamphear, B.J., et al. 1995. Mapping of functional domains in eukaryotic protein synthesis initiation factor 4G (eIF4G) with picornaviral proteases. Implications for cap-dependent and cap-independent translational initiation. *J. Biol. Chem.* 270: 21975-21983.

CHROMOSOMAL LOCATION

Genetic locus: EIF4G1 (human) mapping to 3q27.1.

SOURCE

eIF4G (40) is a mouse monoclonal antibody raised against amino acids 1217-1386 of eIF4G of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol, and 0.04% stabilizer protein.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

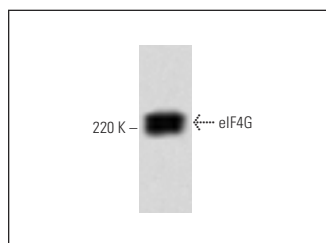
eIF4G (40) is recommended for detection of eIF4G of human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for eIF4G siRNA (h): sc-35286, eIF4G shRNA Plasmid (h): sc-35286-SH and eIF4G shRNA (h) Lentiviral Particles: sc-35286-V.

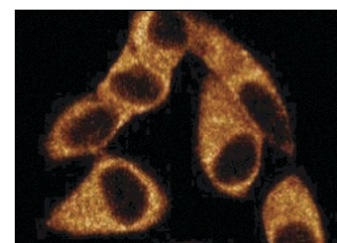
Molecular Weight of eIF4G: 200-250 kDa.

Positive Controls: EB1 cell lysate: sc-24668, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

DATA



eIF4G (40): sc-136142. Western blot analysis of eIF4G expression in EB1 whole cell lysate.



eIF4G (40): sc-136142. Immunofluorescence staining of HeLa cells showing cytoplasmic staining.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **eIF4G (A-10): sc-133155** for eIF4G antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.