

eIF4G (D-20): sc-9602

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 helixase complex intermediates comprising eukaryotic initiation factors eIF-4F and eIF-4B. *Mol. Cell. Biol.* 11: 5992-5997.
5. Yan, R., et al. 1992. Amino acid sequence of the human protein synthesis initiation factor eIF-4 gamma. *J. Biol. Chem.* 267: 23226-23231.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: EIF4G1 (human) mapping to 3q27.1; Eif4g1 (mouse) mapping to 16 B1.

SOURCE

eIF4G (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of eIF4G of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9602 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

eIF4G (D-20) is recommended for detection of eIF4G of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

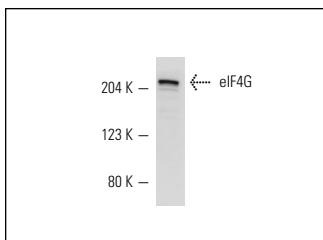
eIF4G (D-20) is also recommended for detection of eIF4G in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for eIF4G siRNA (h): sc-35286, eIF4G siRNA (m): sc-35287, eIF4G siRNA (r): sc-155983, eIF4G shRNA Plasmid (h): sc-35286-SH, eIF4G shRNA Plasmid (m): sc-35287-SH, eIF4G shRNA Plasmid (r): sc-155983-SH, eIF4G shRNA (h) Lentiviral Particles: sc-35286-V, eIF4G shRNA (m) Lentiviral Particles: sc-35287-V and eIF4G shRNA (r) Lentiviral Particles: sc-155983-V.

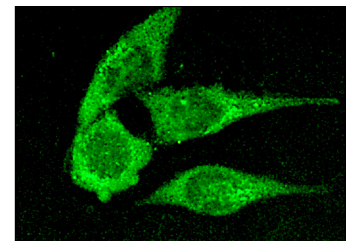
Molecular Weight of eIF4G: 200-250 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or KNRK whole cell lysate: sc-2214.

DATA



eIF4G (D-20): sc-9602. Western blot analysis of eIF4G expression in Jurkat whole cell lysates.



eIF4G (D-20): sc-9602. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Dinkova, T.D., et al. 2005. Cap-independent translation of maize Hsp101. *Plant J.* 41: 722-731.
2. Lee, S.H., et al. 2006. p97/DAP5 is a ribosome-associated factor that facilitates protein synthesis and cell proliferation by modulating the synthesis of cell cycle proteins. *EMBO J.* 25: 4008-4019.
3. Choi, H., et al. 2008. mrt1-A translation/localization regulatory protein encoded within the human c-Myc locus and distributed throughout the endoplasmic and nucleoplasmic reticular network. *J. Cell. Biochem.* 105: 1092-1108.



Try **eIF4G (A-10): sc-133155** or **eIF4G (H-2): sc-373892**, our highly recommended monoclonal alternatives to eIF4G (D-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **eIF4G (A-10): sc-133155**.