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Diagnostik & molekulare Diagnostik



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eIF4G (H-2): sc-373892

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.

CHROMOSOMAL LOCATION

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

SOURCE

eIF4G (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1339-1372 near the C-terminus of eIF4G of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

In addition, eIF4G (H-2) is available conjugated to biotin (sc-373892 B), 200 µg/ml, for WB, IHC(P) and ELISA. Blocking peptide available for competition studies, sc-373892 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% 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 (H-2) is recommended for detection of eIF4G of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (H-2) 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.

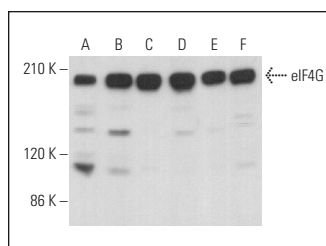
Molecular Weight of eIF4G: 200-250 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, U-698-M whole cell lysate: sc-364799 or IMR-32 cell lysate: sc-2409.

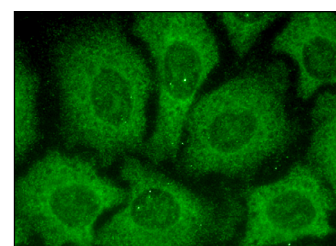
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



eIF4G (H-2): sc-373892. Western blot analysis of eIF4G expression in PC-12 (A), A-431 (B), U-251-MG (C), U-698-M (D), IMR-32 (E) and Neuro-2A (F) whole cell lysates.



eIF4G (H-2): sc-373892. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Erlin, S., et al. 2015. Musashi-1 maintains blood-testis barrier structure during spermatogenesis and regulates stress granule formation upon heat stress. *Mol. Biol. Cell* 26: 1947-1956.
2. Frydryskova, K., et al. 2016. Distinct recruitment of human eIF4E isoforms to processing bodies and stress granules. *BMC Mol. Biol.* 17: 21.
3. Jongjitwimol, J., et al. 2016. Sumoylation of eIF4A2 affects stress granule formation. *J. Cell Sci.* 129: 2407-2415.
4. Haizel, S.A., et al. 2020. 5'-UTR recruitment of the translation initiation factors eIF4G1 or DAP5 drives cap-independent translation of a subset of human mRNAs. *J. Biol. Chem.* 295: 11693-11706.
5. Martínez-Alonso, E., et al. 2022. Phosphorylation of eukaryotic initiation factor 4G1 (eIF4G1) at ser1147 is specific for eIF4G1 bound to eIF4E in delayed neuronal death after ischemia. *Int. J. Mol. Sci.* 23: 1830.
6. Dong, S., et al. 2022. Gasdermin E is required for induction of pyroptosis and severe disease during enterovirus 71 infection. *J. Biol. Chem.* 298: 101850.

RESEARCH USE

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



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.