SANTA CRUZ BIOTECHNOLOGY, INC.

eIF4G (H-300): sc-11373

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

eIF4G (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 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.

APPLICATIONS

eIF4G (H-300) 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 (H-300) is also recommended for detection of eIF4G in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of eIF4G: 200-250 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, eIF4G (m): 293T Lysate: sc-119991 or NIH/3T3 whole cell lysate: sc-2210.

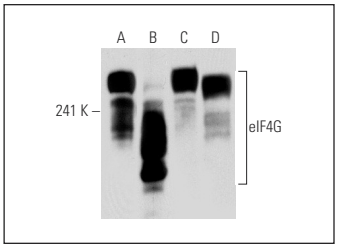
STORAGE

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

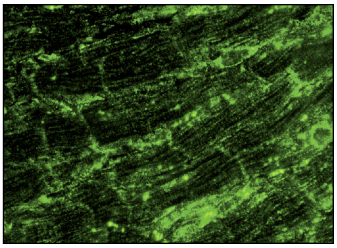
RESEARCH USE

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

DATA



eIF4G (H-300): sc-11373. Western blot analysis of eIF4G expression in non-transfected 293T: sc-117752 (**A**), mouse eIF4G transfected 293T: sc-119991 (**B**), Jurkat (**C**) and NIH/3T3 (**D**) whole cell lysates.



eIF4G (H-300): sc-11373. Immunofluorescence staining of normal mouse liver frozen section showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Arsham, A.M., et al. 2003. A novel hypoxia-inducible factor-independent hypoxic response regulating mammalian target of rapamycin and its targets. J. Biol. Chem. 278: 29655-29660.
2. Freibaum, B.D., et al. 2010. Global analysis of TDP-43 interacting proteins reveals strong association with RNA splicing and translation machinery. J. Proteome Res. 9: 1104-1120.
3. Porter, F.W., et al. 2010. Nucleoporin phosphorylation triggered by the ence-phalomyocarditis virus leader protein is mediated by mitogen-activated protein kinases. J. Virol. 84: 12538-12548.
4. Ozgur, S., et al. 2010. Human Pat1b connects deadenylation with mRNA decapping and controls the assembly of processing bodies. Mol. Cell. Biol. 30: 4308-4323.
5. Fujimura, K., et al. 2012. Selenite targets eIF4E-binding protein-1 to inhibit translation initiation and induce the assembly of non-canonical stress granules. Nucleic Acids Res. 40: 8099-8110.
6. Baird, N.L., et al. 2012. Arenavirus infection induces discrete cytosolic structures for RNA replication. J. Virol. 86: 11301-11310.
7. Zhang, M., et al. 2013. Glycogen synthase kinase 3 promotes p53 mRNA translation via phosphorylation of RNPC1. Genes Dev. 27: 2246-2258.
8. Crossland, H., et al. 2013. Focal adhesion kinase is required for IGF-I-mediated growth of skeletal muscle cells via a TSC2/mTOR/S6K1-associated pathway. Am. J. Physiol. Endocrinol. Metab. 305: E183-E193.