SANTA CRUZ BIOTECHNOLOGY, INC.

p-eIF4G (Ser 1232): sc-135655

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. The phosphorylation of human eIF4G is stimulated by Insulin, which targets specific serine resudues, such as Ser 1232, for phosphorylation.

REFERENCES

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3. Rozen, F., et al. 1990. Bidirectional RNA helicase activity of eukaryotic 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.
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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.
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CHROMOSOMAL LOCATION

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

SOURCE

p-eIF4G (Ser 1232) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 1232 of eIF4G of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-eIF4G (Ser 1232) is recommended for detection of Ser 1232 phosphorylated eIF4G of 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 immunohistochemistry (including paraffin-embedded sections) (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.

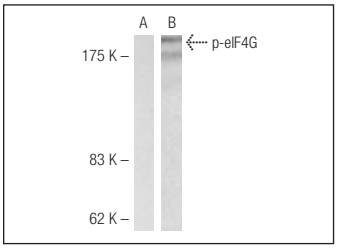
Molecular Weight of p-eIF4G: 200-250 kDa.

Positive Control: 293+PMA cell extract.

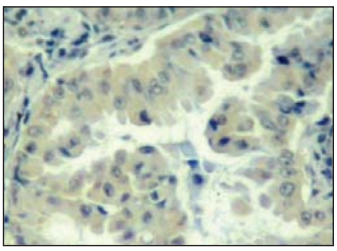
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-eIF4G (Ser 1232): sc-135655. Western blot analysis of phosphorylated eIF4G expression in untreated (**A**) and PMA-treated (**B**) 293 cell extracts.



p-eIF4G (Ser 1232): sc-135655. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung carcinoma tissue showing cytoplasmic localization.

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.

PROTOCOLS

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