SANTA CRUZ BIOTECHNOLOGY, INC.

eIF4GII (R16S): sc-100732

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Translation initiation in eukaryotes necessitates the assembly of an 80S ribosomal complex. Eukaryotic initiation factors (eIFs) are utilized in a sequence of reactions that leads to 80S ribosomal assembly and initiation of translation. Mammalian eukaryotic translation initiation factor 4F (eIF4F) is a protein complex that contains eIF4A, eIF4E and eIF4G, binds mRNA at a 5'-cap motif and recruits the 43S ribosomal preinitiation complex to the transcript. Along with eIF4B, the eIF4F complex mediates the unwinding of mRNA secondary structure to facilitate ribosome association. eIF4E specifically interacts with the 5' cap, eIF4A is a bidirectional RNA helicase, and eIF4GI and eIF4GII are scaffolding proteins which coordinate eIF4E, eIF4A, eIF3 and the 40S ribosome. eIF4GII (also known as eIF4G3 and eIF4-g3) is a 1,585 amino acid protein that is 46% homologous and functionally similar to eIF4GI.

REFERENCES

1. Rozen, F., et al. 1990. Bidirectional RNA helicase activity of eucaryotic translation initiation factors 4A and 4F. Mol. Cell. Biol. 10: 1134-1144.
2. Pain, V.M. 1996. Initiation of protein synthesis in eukaryotic cells. Eur. J. Biochem. 236: 747-751.

CHROMOSOMAL LOCATION

Genetic locus: EIF4G3 (human) mapping to 1p36.12.

SOURCE

eIF4GII (R16S) is a mouse monoclonal antibody raised against recombinant eIF4GII of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

eIF4GII (R16S) is recommended for detection of eIF4GII 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for eIF4GII siRNA (h): sc-40558, eIF4GII shRNA Plasmid (h): sc-40558-SH and eIF4GII shRNA (h) Lentiviral Particles: sc-40558-V.

Molecular Weight of eIF4GII pre-protein: 220 kDa.

Molecular Weight of eIF4GII cleavage products: 200/165/145/137 kDa.

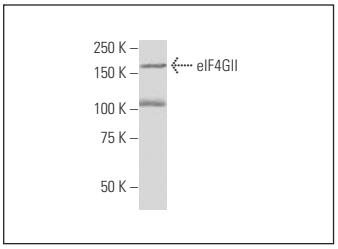
Molecular Weight of eIF4GII isoform 2: 55 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

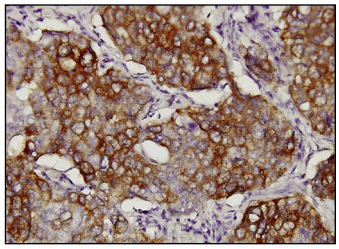
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



eIF4GII (R16S): sc-100732. Western blot analysis of eIF4GII expression in MCF7 whole cell lysate.



eIF4GII (R16S): sc-100732. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung, adenosqumous cell carcinoma tissue showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Miyazaki, Y., et al. 2016. An miRNA-mediated therapy for SCA6 blocks IRES-driven translation of the CACNA1A second cistron. Sci. Transl. Med. 8: 347ra94.
2. Deshpande, P., et al. 2020. Protein synthesis is suppressed in sporadic and familial Parkinson's disease by LRRK2. FASEB J. 34: 14217-14233.

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 for detailed protocols and support products.