SANTA CRUZ BIOTECHNOLOGY, INC.

eIF4G (A-10): sc-133155

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.

CHROMOSOMAL LOCATION

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

SOURCE

eIF4G (A-10) is a mouse monoclonal antibody raised against amino acids 1-300 of eIF4G of human origin.

PRODUCT

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

eIF4G (A-10) is available conjugated to agarose (sc-133155 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133155 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133155 PE), fluorescein (sc-133155 FITC), Alexa Fluor® 488 (sc-133155 AF488), Alexa Fluor® 546 (sc-133155 AF546), Alexa Fluor® 594 (sc-133155 AF594) or Alexa Fluor® 647 (sc-133155 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133155 AF680) or Alexa Fluor® 790 (sc-133155 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

eIF4G (A-10) 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), 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 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, A-431 whole cell lysate: sc-2201 or Neuro-2A whole cell lysate: sc-364185.

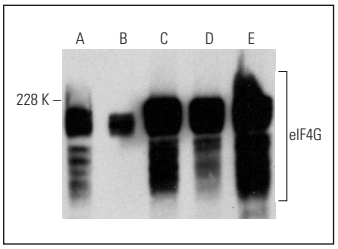
RESEARCH USE

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

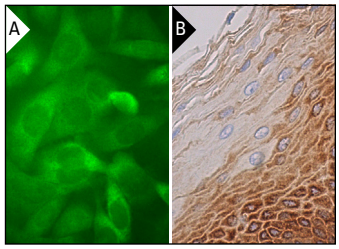
STORAGE

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

DATA



eIF4G (A-10) HRP: sc-133155 HRP. Direct western blot analysis of eIF4G expression in Jurkat (**A**), Neuro-2A (**B**), A-431 (**C**), IMR-32 (**D**) and U-251-MG (**E**) whole cell lysates.



eIF4G (A-10) Alexa Fluor® 488: sc-133155 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). eIF4G (A-10): sc-133155. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Tahiri-Alaoui, A., et al. 2014. Poly(A) binding protein 1 enhances cap-independent translation initiation of neurovirulence factor from avian herpesvirus. PLoS ONE 9: e114466.
2. Rincheval, V., et al. 2017. Functional organization of cytoplasmic inclusion bodies in cells infected by respiratory syncytial virus. Nat. Commun. 8: 563.
3. Oblinger, J.L., et al. 2018. Overexpression of eIF4F components in meningiomas and suppression of meningioma cell growth by inhibiting translation initiation. Exp. Neurol. 299: 299-307.
4. Bouillier, C., et al. 2019. The interactome analysis of the respiratory syncytial virus protein M2-1 suggests a new role in viral mRNA metabolism post-transcription. Sci. Rep. 9: 15258.
5. Christ, W., et al. 2020. Puumala and Andes hantaviruses cause transient PKR-dependent formation of stress granules. J. Virol. 94: e01168-19.
6. Mohibi, S., et al. 2020. PABPN1, a target of p63, modulates keratinocyte differentiation through regulation of p63α mRNA translation. J. Invest. Dermatol. 140: 2166-2177.e6.
7. Weiss, B., et al. 2021. eIF4E3 forms an active eIF4F complex during stresses (eIF4FS) targeting mTOR and re-programs the translatome. Nucleic Acids Res. 49: 5159-5176.
8. Reuper, H., et al. 2021. *Arabidopsis thaliana* G3BP ortholog rescues mammalian stress granule phenotype across kingdoms. Int. J. Mol. Sci. 22: 6287.

PROTOCOLS

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