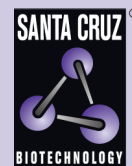


## eIF4E2 (YB-18): sc-100731



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 factor 4E family (eIF4E) is comprised of three proteins that are involved in the early initiation of protein synthesis. eIF4E2 (eukaryotic translation initiation factor 4E family member 2), also known as 4EHP, IF4e, 4E-LP or EIF4EL3, is a ubiquitously expressed 245 amino acid protein. During early translation events, eIF4E2 recognizes and binds the 7-methylguanosine-containing mRNA cap (a cotranscriptionally added structure that conveys mRNA stability and allows for efficient RNA processing), thus initiating the unwinding of mRNA secondary structures and facilitating mRNA-ribosome binding. eIF4E2 competes with eIF4E (member 1) for cap binding and, upon modification by the ubiquitin-like protein ISG15 (interferon-induced 15 kDa protein), exhibits increased mRNA cap affinity.

## REFERENCES

1. Gao, M., et al. 1998. Cloning and characterization of human eIF4E genes. *J. Biol. Chem.* 273: 4622-4628.
2. Rom, E., et al. 1998. Cloning and characterization of 4EHP, a novel mammalian eIF4E-related cap-binding protein. *J. Biol. Chem.* 273: 13104-13109.

## CHROMOSOMAL LOCATION

Genetic locus: EIF4E2 (human) mapping to 2q37.1; Eif4e2 (mouse) mapping to 1 D.

## SOURCE

eIF4E2 (YB-18) is a mouse monoclonal antibody raised against recombinant eIF4E2 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

eIF4E2 (YB-18) is recommended for detection of eIF4E2 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), 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 eIF4E2 siRNA (h): sc-94498, eIF4E2 siRNA (m): sc-144619, eIF4E2 shRNA Plasmid (h): sc-94498-SH, eIF4E2 shRNA Plasmid (m): sc-144619-SH, eIF4E2 shRNA (h) Lentiviral Particles: sc-94498-V and eIF4E2 shRNA (m) Lentiviral Particles: sc-144619-V.

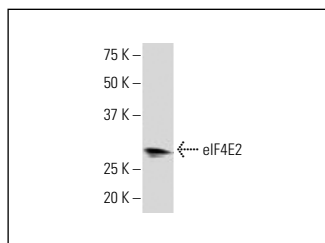
Molecular Weight of eIF4E2: 31 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

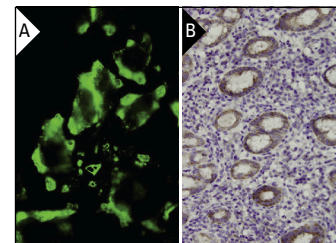
## RECOMMENDED SUPPORT REAGENTS

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



eIF4E2 (YB-18): sc-100731. Western blot analysis of eIF4E2 expression in HeLa whole cell lysate.



eIF4E2 (YB-18): sc-100731. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

1. Tao, X. and Gao, G. 2015. Tristetraprolin recruits eukaryotic initiation factor 4E2 to repress translation of AU-rich element-containing mRNAs. *Mol. Cell. Biol.* 35: 3921-3932.
2. Hu, J., et al. 2018. Nuclear localization of EIF4G3 suggests a role for the XY body in translational regulation during spermatogenesis in mice. *Biol. Reprod.* 98: 102-114.
3. Ko, T. and Li, S. 2019. Genome-wide screening identifies novel genes and biological processes implicated in cisplatin resistance. *FASEB J.* 33: 7143-7154.
4. Wiebe, S., et al. 2020. The eIF4E homolog 4EHP (eIF4E2) regulates hippocampal long-term depression and impacts social behavior. *Mol. Autism* 11: 92.

## 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.