

# eIF4E (C-20): sc-6968

## 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.
3. Rozen, F., et al. 1990. Bidirectional RNA helicase activity of eucaryotic translation initiation factors 4A and 4F. *Mol. Cell. Biol.* 10: 1134-1144.

## CHROMOSOMAL LOCATION

Genetic locus: EIF4E (human) mapping to 4q23; Eif4e (mouse) mapping to 3 G3.

## SOURCE

eIF4E (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of eIF4E 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.

Blocking peptide available for competition studies, sc-6968 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

eIF4E (C-20) is recommended for detection of eIF4E 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).

eIF4E (C-20) is also recommended for detection of eIF4E in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for eIF4E siRNA (h): sc-35284, eIF4E siRNA (m): sc-35285, eIF4E shRNA Plasmid (h): sc-35284-SH, eIF4E shRNA Plasmid (m): sc-35285-SH, eIF4E shRNA (h) Lentiviral Particles: sc-35284-V and eIF4E shRNA (m) Lentiviral Particles: sc-35285-V.

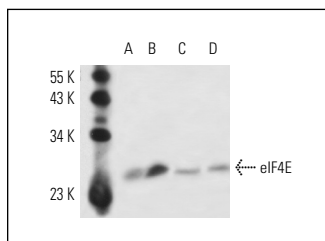
Molecular Weight of eIF4E: 28 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283, KNRK whole cell lysate: sc-2214 or K-562 whole cell lysate: sc-2203.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



eIF4E (C-20): sc-6968. Western blot analysis of eIF4E expression in K-562 (A), KNRK (B), SRC-3T3 (C) and MEG-01 (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. DeWire, S.M., et al. 2008.  $\beta$ -arrestin-mediated signaling regulates protein synthesis. *J. Biol. Chem.* 283: 10611-10620.
2. Geibler, V., et al. 2013. The RNA helicase Ddx5/p68 binds to hUpf3 and enhances NMD of Ddx17/p72 and Smg5 mRNA. *Nucleic Acids Res.* 41: 7875-7888.
3. Jones, B.L., et al. 2013. Stress granules form in *Brachionus manjavacas* (Rotifera) in response to a variety of stressors. *Comp. Biochem. Physiol. A Mol. Integr. Physiol.* 166: 375-384.

## 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.



Try **eIF4E (P-2): sc-9976** or **eIF4E (A-10): sc-271480**, our highly recommended monoclonal alternatives to eIF4E (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **eIF4E (P-2): sc-9976**.