

eIF4E (P-2): sc-9976



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 eIF4E, eIF4A and eIF4G. 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: EIF4E (human) mapping to 4q23; Eif4e (mouse) mapping to 3 G3.

SOURCE

eIF4E (P-2) is a mouse monoclonal antibody raised against full length eIF4E of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF4E (P-2) is available conjugated to agarose (sc-9976 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9976 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9976 PE), fluorescein (sc-9976 FITC), Alexa Fluor® 488 (sc-9976 AF488), Alexa Fluor® 546 (sc-9976 AF546), Alexa Fluor® 594 (sc-9976 AF594) or Alexa Fluor® 647 (sc-9976 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9976 AF680) or Alexa Fluor® 790 (sc-9976 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

eIF4E (P-2) is recommended for detection of eIF4E of mouse, rat, human and porcine 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 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: KNRK whole cell lysate: sc-2214, NIH/3T3 whole cell lysate: sc-2210 or Hep G2 cell lysate: sc-2227.

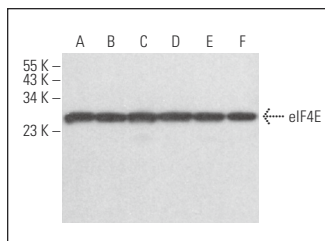
STORAGE

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

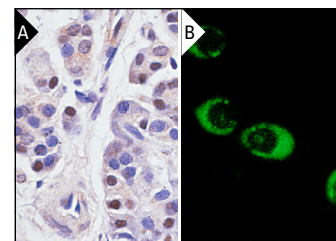
RESEARCH USE

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

DATA



eIF4E (P-2): sc-9976. Western blot analysis of eIF4E expression in KNRK (A), NIH/3T3 (B), Hep G2 (C), MEG-01 (D), HEK293 (E) and HeLa (F) whole cell lysates.



eIF4E (P-2): sc-9976. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human pancreas tumor showing cytoplasmic staining (A). Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic staining (B).

SELECT PRODUCT CITATIONS

- Zheng, J.Q., et al. 2001. A functional role for intra-axonal protein synthesis during axonal regeneration from adult sensory neurons. *J. Neurosci.* 21: 9291-9303.
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- Aulas, A., et al. 2018. Nitric oxide triggers the assembly of "type II" stress granules linked to decreased cell viability. *Cell Death Dis.* 9: 1129.
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- Ha, D.P., et al. 2022. Targeting GRP78 suppresses oncogenic KRAS protein expression and reduces viability of cancer cells bearing various KRAS mutations. *Neoplasia* 33: 100837.
- Asano-Inami, E., et al. 2023. The association of UBAP2L and G3BP1 mediated by small nucleolar RNA is essential for stress granule formation. *Commun. Biol.* 6: 415.
- Randolph, M.E., et al. 2024. RNA helicase DDX3 regulates RAD51 localization and DNA damage repair in Ewing sarcoma. *iScience* 27: 108925.

PROTOCOLS

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