

eIF4B (D-4): sc-376062

BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. These interactions are facilitated, in part, by the eukaryotic initiation factor 4 family (eIF4) of proteins that are involved in the early initiation of protein synthesis. eIF4B (eukaryotic translation initiation factor 4B) is a 611 amino acid protein that contains one RNA recognition motif and belongs to the eIF4 protein family. Required for proper mRNA/ribosome binding, eIF4B associates with other eIF4 proteins, such as eIF4A, and promotes the ATP-dependent unwinding activity of select eukaryotic initiation factors. The gene encoding eIF4B maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome.

CHROMOSOMAL LOCATION

Genetic locus: EIF4B (human) mapping to 12q13.13; Eif4b (mouse) mapping to 15 F3.

SOURCE

eIF4B (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 581-602 at the C-terminus of eIF4B 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.

eIF4B (D-4) is available conjugated to agarose (sc-376062 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376062 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376062 PE), fluorescein (sc-376062 FITC), Alexa Fluor[®] 488 (sc-376062 AF488), Alexa Fluor[®] 546 (sc-376062 AF546), Alexa Fluor[®] 594 (sc-376062 AF594) or Alexa Fluor[®] 647 (sc-376062 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376062 AF680) or Alexa Fluor[®] 790 (sc-376062 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376062 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

eIF4B (D-4) is recommended for detection of eIF4B 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).

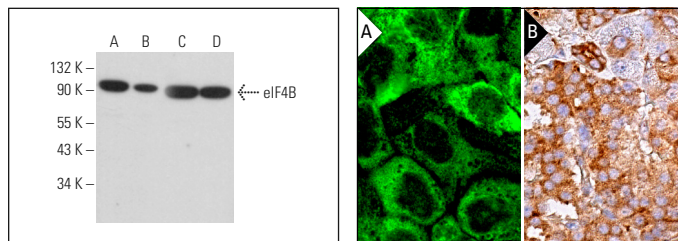
Suitable for use as control antibody for eIF4B siRNA (h): sc-77253, eIF4B siRNA (m): sc-77254, eIF4B shRNA Plasmid (h): sc-77253-SH, eIF4B shRNA Plasmid (m): sc-77254-SH, eIF4B shRNA (h) Lentiviral Particles: sc-77253-V and eIF4B shRNA (m) Lentiviral Particles: sc-77254-V.

Molecular Weight of eIF4B: 80 kDa.

STORAGE

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

DATA



eIF4B (D-4): sc-376062. Western blot analysis of eIF4B expression in Raji (A), HEL 92.1.7 (B), WEHI-231 (C) and RAW 264.7 (D) whole cell lysates.

eIF4B (D-4): sc-376062. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of islets of Langerhans and glandular cells (B).

SELECT PRODUCT CITATIONS

1. Ayuso, M.I., et al. 2016. Stress granule induction after brain ischemia is independent of eukaryotic translation initiation factor (eIF) 2 α phosphorylation and is correlated with a decrease in eIF4B and eIF4E proteins. *J. Biol. Chem.* 291: 27252-27264.
2. Bielecka, Z.F., et al. 2017. Hypoxic 3D *in vitro* culture models reveal distinct resistance processes to TKIs in renal cancer cells. *Cell Biosci.* 7: 71.
3. Kapadia, B., et al. 2018. Fatty Acid Synthase induced S6Kinase facilitates USP11-eIF4B complex formation for sustained oncogenic translation in DLBCL. *Nat. Commun.* 9: 829.
4. Díaz-López, I., et al. 2019. An mRNA-binding channel in the ES6S region of the translation 48S-PIC promotes RNA unwinding and scanning. *Elife* 8: e48246.
5. Zhou, J., et al. 2020. ASLAN003, a potent dihydroorotate dehydrogenase inhibitor for differentiation of acute myeloid leukemia. *Haematologica* 105: 2286-2297.
6. Tauber, D., et al. 2020. Modulation of RNA condensation by the DEAD-box protein eIF4A. *Cell* 180: 411-426.e16.
7. Kulsuptrakul, J., et al. 2021. A genome-wide CRISPR screen identifies UFMylation and TRAMP-like complexes as host factors required for hepatitis A virus infection. *Cell Rep.* 34: 108859.
8. Chen, B., et al. 2021. Deficiency of eIF4B increases mouse mortality and impairs antiviral immunity. *Front. Immunol.* 12: 723885.
9. Kapadia, B.B., et al. 2022. PARK2 regulates eIF4B-driven lymphomagenesis. *Mol. Cancer Res.* E-published.

RESEARCH USE

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