

# eIF1/1B (B-2): sc-390122

## BACKGROUND

In mammalian cells, translation is controlled at the level of polypeptide chain initiation by initiation factors. Eukaryotic translation initiation factor 1 (eIF1) is crucial for the scanning process *in vitro*, acting as a component of a complex involved in recognition of the initiator codon. Translation is also initiated by the role of eIF1 in regulating the activity of ribosomal subunits 43S, 48S and 40S. eIF1 enables 43S ribosomal complexes to discern between cognate and near-cognate initiation codons, sensing the nucleotide content of initiation codons. It is also a promotor, along with eukaryotic translation initiation factor 1A (eIF1A), for assembly of 48S ribosomal complexes at the initiation codon of a conventional capped mRNA. In addition, eIF1 and eIF1A, together with eukaryotic translation initiation factor 5 (eIF5), function in the formation of stable 40S ribosomal preinitiation complexes. Eukaryotic translation initiation factor 1B (eIF1B) is highly homologous to eIF1, sharing 92% identity at the amino acid level. The function of eIF1B has not been widely studied.

## CHROMOSOMAL LOCATION

Genetic locus: EIF1 (human) mapping to 17q21.2, EIF1B (human) mapping to 3p22.1; Eif1 (mouse) mapping to 11 D, Eif1b (mouse) mapping to 9 F4.

## SOURCE

eIF1/1B (B-2) is a mouse monoclonal antibody raised against amino acids 69-111 mapping near the C-terminus of eIF1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF1/1B (B-2) is available conjugated to agarose (sc-390122 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390122 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390122 PE), fluorescein (sc-390122 FITC), Alexa Fluor® 488 (sc-390122 AF488), Alexa Fluor® 546 (sc-390122 AF546), Alexa Fluor® 594 (sc-390122 AF594) or Alexa Fluor® 647 (sc-390122 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390122 AF680) or Alexa Fluor® 790 (sc-390122 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

eIF1/1B (B-2) is recommended for detection of eIF1 and eIF1B 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).

eIF1/1B (B-2) is also recommended for detection of eIF1 and eIF1B in additional species, including canine, bovine, porcine and avian.

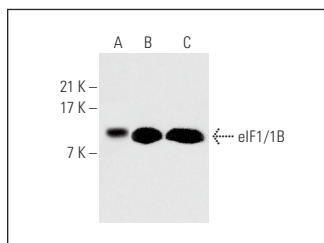
Molecular Weight of eIF1/1B: 12 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

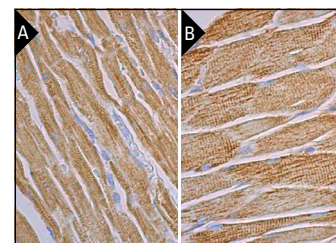
## RECOMMENDED SUPPORT REAGENTS

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



eIF1/1B (B-2): sc-390122. Western blot analysis of eIF1/1B expression in MCF7 (A), HeLa (B) and Jurkat (C) whole cell lysates.



eIF1/1B (B-2): sc-390122. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle (A) and human skeletal muscle (B) tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- González-Almela, E., et al. 2018. The initiation factors eIF2, eIF2A, eIF2D, eIF4A, and eIF4G are not involved in translation driven by hepatitis C virus IRES in human cells. *Front. Microbiol.* 9: 207.
- Elliott, B., et al. 2019. Essential role of JunD in cell proliferation is mediated via Myc signaling in prostate cancer cells. *Cancer Lett.* 448: 155-167.
- Dai, W., et al. 2021. Far upstream binding protein 1 (FUBP1) participates in translational regulation of Nrf2 protein under oxidative stress. *Redox Biol.* 41: 101906.
- Kyriakopoulos, G., et al. 2021. KRAS<sup>G12C</sup> can either promote or impair cap-dependent translation in two different lung adenocarcinoma cell lines. *Int. J. Mol. Sci.* 22: 2222.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.