

eIF2A (3A7A8): sc-517214

BACKGROUND

eIF2A (eukaryotic translation initiation factor 2A), also known as CDA02, MSTP004 or MSTP089, is a 585 amino acid protein that contains three WD repeats. Expressed ubiquitously with highest expression in heart, brain, pancreas and placenta, eIF2A functions as a translation initiation factor that binds Met-tRNA and directs it to 40S ribosomal subunits. Present in the early steps of protein synthesis, eIF2A controls the binding of Met-tRNA to 40S ribosomal subunits in a codon-dependent manner, in contrast to the eIF2 complex which accomplishes the same task in a GTP-dependent manner. In addition to its role in transcription initiation, eIF2A may also act to negatively regulate the expression of specific proteins, suggesting a possible role as a transcriptional repressor. eIF2A exists as two isoforms due to alternative splicing events.

REFERENCES

- Merrick, W.C. 1992. Mechanism and regulation of eukaryotic protein synthesis. *Microbiol. Rev.* 56: 291-315.
- Zoll, W.L., et al. 2002. Characterization of mammalian eIF2A and identification of the yeast homolog. *J. Biol. Chem.* 277: 37079-37087.

CHROMOSOMAL LOCATION

Genetic locus: EIF2A (human) mapping to 3q25.1; Eif2a (mouse) mapping to 3 D.

SOURCE

eIF2A (3A7A8) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 448-576 of eIF2A of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

eIF2A (3A7A8) is recommended for detection of eIF2A 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

eIF2A (3A7A8) is also recommended for detection of eIF2A in additional species, including monkey.

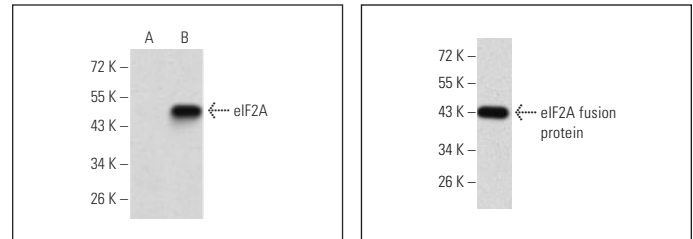
Suitable for use as control antibody for eIF2A siRNA (h): sc-78173, eIF2A siRNA (m): sc-155890, eIF2A shRNA Plasmid (h): sc-78173-SH, eIF2A shRNA Plasmid (m): sc-155890-SH, eIF2A shRNA (h) Lentiviral Particles: sc-78173-V and eIF2A shRNA (m) Lentiviral Particles: sc-155890-V.

Molecular Weight of eIF2A: 36 kDa.

STORAGE

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

DATA



eIF2A (3A7A8): sc-517214. Western blot analysis of eIF2A expression in non-transfected (A) and human eIF2A (HEK293)-hlgGfC transfected (B) HEK293 whole cell lysates.

eIF2A (3A7A8): sc-517214. Western blot analysis of human recombinant eIF2A (448-576) fusion protein.

SELECT PRODUCT CITATIONS

- Jin, Y., et al. 2021. Depletion of adipocyte Becn1 leads to lipodystrophy and metabolic dysregulation. *Diabetes* 70: 182-195.
- Nouri, H., et al. 2021. Changes in UPR-PERK pathway and muscle hypertrophy following resistance training and creatine supplementation in rats. *J. Physiol. Biochem.* 77: 331-339.
- Rojas-Franco, P., et al. 2021. *Arthrospira maxima (Spirulina)* prevents endoplasmic reticulum stress in the kidney through its C-phycoerythrin. *J. Zhejiang Univ. Sci. B* 22: 603-608.
- Reyes-Ruiz, A., et al. 2021. The bovine dialysable leukocyte extract IMMUNEPOTENT CRP induces immunogenic cell death in breast cancer cells leading to long-term antitumour memory. *Br. J. Cancer* 124: 1398-1410.
- Zheng, H., et al. 2022. Epimedokoreanin B inhibits the growth of lung cancer cells through endoplasmic reticulum stress-mediated paraptosis accompanied by autophagosome accumulation. *Chem. Biol. Interact.* 366: 110125.
- Ma, M., et al. 2023. A mulberry diels-alder-type adduct, kuwanon M, triggers apoptosis and paraptosis of lung cancer cells through inducing endoplasmic reticulum stress. *Int. J. Mol. Sci.* 24: 1015.

RESEARCH USE

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

PROTOCOLS

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