SANTA CRUZ BIOTECHNOLOGY, INC.

eIF4H (C-6): sc-515265

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. eIF4H (eukaryotic translation initiation factor 4H), also known as WSCR1 or WBSCR1, is a 248 amino acid protein that localizes to the perinuclear region of the cytoplasm and is expressed as two isoforms, designated short and long. While the short isoform is expressed predominately in liver and kidney, both isoforms are present in lung, pancreas, testis and spleen, where they function to stimulate RNA helicase activity. Specifically, eIF4H enhances the activity of eIF4A in the translation initiation complex, thereby promoting protein synthesis. Defects in the gene encoding eIF4H are associated with Williams-Beuren syndrome (WBS), a rare developmental disorder characterized by cardiovascular and musculo-skeletal abnormalities.

REFERENCES

1. Osborne, L.R., et al. 1996. Identification of genes from a 500 kb region at 7q11.23 that is commonly deleted in Williams syndrome patients. Genomics 36: 328-336.
2. Richter-Cook, N.J., et al. 1998. Purification and characterization of a new eukaryotic protein translation factor. Eukaryotic initiation factor 4H. J. Biol. Chem. 273: 7579-7587.
3. Bjork, P., et al. 2003. The *Chironomus tentans* translation initiation factor eIF4H is present in the nucleus but does not bind to mRNA until the mRNA reaches the cytoplasmic perinuclear region. J. Cell Sci. 116: 4521-4532.
4. Doepker, R.C., et al. 2004. Herpes simplex virus virion host shutoff protein is stimulated by translation initiation factors eIF4B and eIF4H. J. Virol. 78: 4684-4699.

CHROMOSOMAL LOCATION

Genetic locus: EIF4H (human) mapping to 7q11.23; Eif4h (mouse) mapping to 5 G2.

SOURCE

eIF4H (C-6) is a mouse monoclonal antibody raised against amino acids 51-201 mapping within an internal region of eIF4H of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF4H (C-6) is available conjugated to agarose (sc-515265 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515265 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515265 PE), fluorescein (sc-515265 FITC), Alexa Fluor® 488 (sc-515265 AF488), Alexa Fluor® 546 (sc-515265 AF546), Alexa Fluor® 594 (sc-515265 AF594) or Alexa Fluor® 647 (sc-515265 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515265 AF680) or Alexa Fluor® 790 (sc-515265 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

eIF4H (C-6) is recommended for detection of eIF4H 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for eIF4H siRNA (h): sc-89585, eIF4H siRNA (m): sc-144622, eIF4H shRNA Plasmid (h): sc-89585-SH, eIF4H shRNA Plasmid (m): sc-144622-SH, eIF4H shRNA (h) Lentiviral Particles: sc-89585-V and eIF4H shRNA (m) Lentiviral Particles: sc-144622-V.

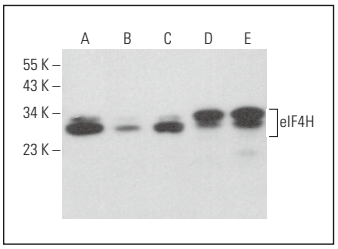
Molecular Weight of eIF4H: 25 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or MDA-MB-231 cell lysate: sc-2232.

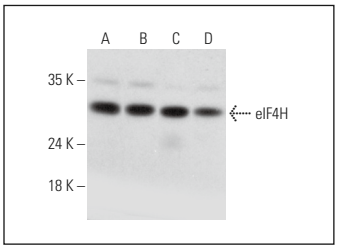
RECOMMENDED SUPPORT REAGENTS

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.

DATA



eIF4H (C-6): sc-515265. Western blot analysis of eIF4H expression in Raji (**A**), Ramos (**B**), MCF7 (**C**), RAW 264.7 (**D**) and PC-12 (**E**) whole cell lysates.



eIF4H (C-6): sc-515265. Western blot analysis of eIF4H expression in Jurkat (**A**), Raji (**B**), MDA-MB-231 (**C**) and HeLa (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tang, B., et al. 2022. Extracellular 5'-methylthioadenosine inhibits intracellular symmetric dimethylarginine protein methylation of FUSE-element binding proteins. J. Biol. Chem. 298: 102367.

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.