SANTA CRUZ BIOTECHNOLOGY, INC.

eIF4H (L-21): sc-101946

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

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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.
5. Korneeva, N.L., et al. 2005. Interaction between the NH_2-terminal domain of eIF4A and the central domain of eIF4G modulates RNA-stimulated ATPase activity. J. Biol. Chem. 280: 1872-1881.
6. Feng, P., et al. 2005. mRNA decay during herpes simplex virus (HSV) infections: protein-protein interactions involving the HSV virion host shutoff protein and translation factors eIF4H and eIF4A. J. Virol. 79: 9651-9664.
7. Bordeleau, M.E., et al. 2005. Stimulation of mammalian translation initiation factor eIF4A activity by a small molecule inhibitor of eukaryotic translation. Proc. Natl. Acad. Sci. USA 102: 10460-10465.
8. Sarma, N., et al. 2008. Small interfering RNAs that deplete the cellular translation factor eIF4H impede mRNA degradation by the virion host shutoff protein of herpes simplex virus. J. Virol. 82: 6600-6609.

CHROMOSOMAL LOCATION

Genetic locus: EIF4H (human) mapping to 7q11.23.

SOURCE

eIF4H (L-21) is a purified rabbit polyclonal antibody raised against eIF4H of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

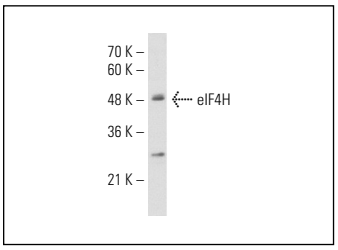
eIF4H (L-21) is recommended for detection of eIF4H of human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 eIF4H siRNA (h): sc-89585, eIF4H shRNA Plasmid (h): sc-89585-SH and eIF4H shRNA (h) Lentiviral Particles: sc-89585-V.

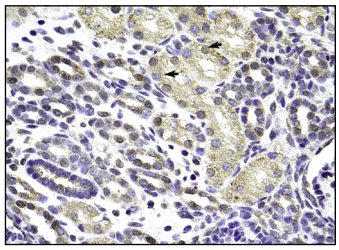
Molecular Weight of eIF4H: 25 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

DATA



eIF4H (L-21): sc-101946. Western blot analysis of eIF4H expression in Jurkat whole cell lysate.



eIF4H (L-21): sc-101946. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic staining.

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 or our catalog for detailed protocols and support products.