



HuD (16C12): sc-56708

BACKGROUND

The Elav-like genes encode for a family of RNA-binding proteins. Elav, a *Drosophila* protein and the first described member, is expressed immediately after neuroblastic differentiation into neurons and is necessary for neuronal differentiation and maintenance. Several mammalian Elav-like proteins, designated HuC, HuD and Hel-N1, are also expressed in postmitotic neurons. An additional mammalian homolog, HuR, which is also designated HuA, is ubiquitously expressed and is also overexpressed in a wide variety of tumors. Characteristically, these homologs all contain three RNA recognition motifs (RRM), and they specifically bind to AU-rich elements (ARE) in the 3'-untranslated region of mRNAs transcripts. ARE sites target mRNA for rapid degradation and thereby regulate the expression levels of genes involved in cell growth and differentiation. When Elav-like proteins associate with these ARE sites this degradation is inhibited, leading to an increased stability of the corresponding transcript. Elav proteins function within the nucleus. They are shuttled between the nucleus and cytoplasm by a nuclear export signal, which is a regulatory feature of the Elav-like proteins as it limits their accessibility to ARE-sites.

REFERENCES

1. Chagnovich, D., et al. 1996. Differential activity of Elav-like RNA-binding proteins in human neuroblastoma. *J. Biol. Chem.* 271: 33587-33591.
2. Wakamatsu, Y., et al. 1997. Sequential expression and role of Hu RNA-binding proteins during neurogenesis. *Development* 124: 3449-3460.
3. King, P. 1997. Differential expression of the neuroendocrine genes Hel-N1 and HuD in small-cell lung carcinoma: evidence for downregulation of HuD in the variant phenotype. *Int. J. Cancer* 74: 378-382.
4. Ball, N.S., et al. 1997. Neuron-specific Hel-N1 and HuD as novel molecular markers of neuroblastoma: a correlation of HuD messenger RNA levels with favorable prognostic features. *Clin. Cancer Res.* 3: 1859-1865.
5. Myer, V.E., et al. 1997. Identification of HuR as a protein implicated in AUUUA-mediated mRNA decay. *EMBO J.* 16: 2130-2139.
6. Chung, S., et al. 1997. The Elav-like proteins bind to a conserved regulatory element in the 3'-untranslated region of GAP-43 mRNA. *J. Biol. Chem.* 272: 6593-6598.
7. Peng, S.S., et al. 1998. RNA stabilization by the AU-rich element binding protein, HuR, an Elav protein. *EMBO J.* 17: 3461-3470.

CHROMOSOMAL LOCATION

Genetic locus: ELAVL4 (human) mapping to 1p34; Elavl4 (mouse) mapping to 4 C7.

SOURCE

HuD (16C12) is a mouse monoclonal antibody raised against the N-terminus of HuD of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HuD (16C12) is recommended for detection of HuD of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other Elav family proteins such as HuR, HuC and Hel-N1.

Suitable for use as control antibody for HuD siRNA (h): sc-37835.

Molecular Weight of HuD: 40 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or SH-SY5Y cell lysate: sc-3812.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

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.