

# HuD (H-9): sc-48421

## 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 HuB (also designated Hel-N1 in human, or Mel-N1 in mouse), HuC and HuD 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, and 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. King, P. 1997. Differential expression of the neuroendocrine genes Hel-N1 and HuD in small-cell lung carcinoma: evidence for down-regulation of HuD in the variant phenotype. *Int. J. Cancer* 74: 378-382.

## CHROMOSOMAL LOCATION

Genetic locus: ELAVL4 (human) mapping to 1p33; Elavl4 (mouse) mapping to 4 C7.

## SOURCE

HuD (H-9) is a mouse monoclonal antibody raised against amino acids 1-300 of HuD of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HuD (H-9) is available conjugated to agarose (sc-48421 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48421 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48421 PE), fluorescein (sc-48421 FITC), Alexa Fluor® 488 (sc-48421 AF488), Alexa Fluor® 546 (sc-48421 AF546), Alexa Fluor® 594 (sc-48421 AF594) or Alexa Fluor® 647 (sc-48421 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48421 AF680) or Alexa Fluor® 790 (sc-48421 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

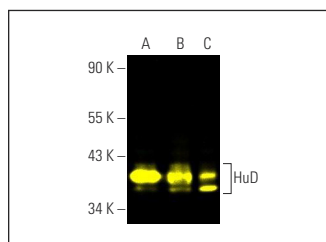
HuD (H-9) is recommended for detection of HuD of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for HuD siRNA (h): sc-37835, HuD siRNA (m): sc-37836, HuD shRNA Plasmid (h): sc-37835-SH, HuD shRNA Plasmid (m): sc-37836-SH, HuD shRNA (h) Lentiviral Particles: sc-37835-V and HuD shRNA (m) Lentiviral Particles: sc-37836-V.

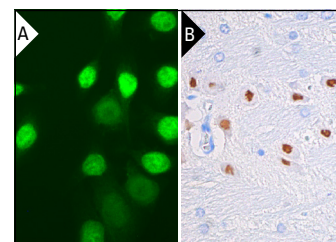
Molecular Weight of HuD: 40 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, SH-SY5Y cell lysate: sc-3812 or IMR-32 cell lysate: sc-2409.

## DATA



HuD (H-9) Alexa Fluor® 488: sc-48421 AF488. Direct fluorescent western blot analysis of HuD expression in SK-N-SH (A), IMR-32 (B) and SH-SY5Y (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



HuD (H-9) Alexa Fluor® 488: sc-48421 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). HuD (H-9 HRP): sc-48421 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded rat brain tissue showing nuclear staining of neuronal cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214 (B).

## SELECT PRODUCT CITATIONS

1. Tattikotla, S.G., et al. 2013. Argonaute2 regulates the pancreatic β-cell secretome. *Mol. Cell. Proteomics* 12: 1214-1225.
2. Pandey, P.R., et al. 2018. Interaction of HuDA and PABP at 5'UTR of mouse Insulin2 regulates Insulin biosynthesis. *PLoS ONE* 13: e0194482.
3. De Santis, R., et al. 2019. Mutant FUS and ELAVL4 (HuD) aberrant crosstalk in amyotrophic lateral sclerosis. *Cell Rep.* 27: 3818-3831.e5.
4. Wu, C.C., et al. 2020. Altered expression of genes regulating inflammation and synaptogenesis during regrowth of afferent neurons to cochlear hair cells. *PLoS ONE* 15: e0238578.
5. Garone, M.G., et al. 2021. ALS-related FUS mutations alter axon growth in motoneurons and affect HuD/ELAVL4 and FMRP activity. *Commun. Biol.* 4: 1025.

## RESEARCH USE

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