abcam

ab237235

Alexa Fluor® 647 Anti-HuD + HuC antibody [EPR19098]

Anti-HuD + HuC antibody [EPR19098] - Alexa Fluor® 647 conjugated (ab237235) is a rabbit recombinant monoclonal antibody detecting HuC in **IHC-P**. Suitable for **Human, Mouse**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR19098
Purification technique	Affinity purification Protein A
Specificity	This antibody shows very weak cross reactivity to HuB in WB test. Please contact our Scientific support team for more information.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

Species	Human
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information ELAVL4

Function

RNA-binding protein that is involved in the post-transcriptional regulation of mRNAs (PubMed:10710437, PubMed:12034726, PubMed:12468554, PubMed:17035636, PubMed:17234598, PubMed:7898713). Plays a role in the regulation of mRNA stability, alternative splicing and translation (PubMed:10710437, PubMed:12034726, PubMed:12468554, PubMed:17035636, PubMed:17234598, PubMed:7898713). Binds to AU-rich element (ARE) sequences in the 3' untranslated region (UTR) of target mRNAs, including GAP43, VEGF, FOS, CDKN1A and ACHE mRNA (PubMed:10710437, PubMed:12034726, PubMed:12468554, PubMed:7898713). Many of the target mRNAs are coding for RNA-binding proteins, transcription factors and proteins involved in RNA processing and/or neuronal development and function (By similarity). By binding to the mRNA 3'UTR, decreases mRNA deadenylation and thereby contributes to the stabilization of mRNA molecules and their protection from decay (PubMed:12034726). Also binds to the polyadenylated (poly(A)) tail in the 3'UTR of mRNA, thereby increasing its affinity for mRNA binding (PubMed:12034726). Mainly plays a role in neuron-specific RNA processing by stabilization of mRNAs such as GAP43, ACHE and mRNAs of other neuronal proteins, thereby contributing to the differentiation of neural progenitor cells, nervous system development, learning and memory mechanisms (PubMed:12034726, PubMed:12468554, PubMed:17234598, PubMed:18218628). Involved in the negative regulation of the proliferative activity of neuronal stem cells and in the positive regulation of neuronal differentiation of neural progenitor cells (By similarity). Promotes neuronal differentiation of neural stem/progenitor cells in the adult subventricular zone of the hippocampus by binding to and stabilizing SATB1 mRNA (By similarity). Binds and stabilizes MSI1 mRNA in neural stem cells (By similarity). Exhibits increased binding to ACHE mRNA during neuronal differentiation, thereby stabilizing ACHE mRNA and enhancing its expression (PubMed:12468554, PubMed:17234598). Protects CDKN1A mRNA from decay by binding to its 3'-UTR (By similarity). May bind to APP and BACE1 mRNAS and the BACE1AS lncRNA and enhance their stabilization (PubMed:24857657). Plays a role in neurite outgrowth and in the establishment and maturation of dendritic arbors, thereby contributing to neocortical and hippocampal circuitry function (By similarity). Stabilizes GAP43 mRNA and protects it from decay during postembryonic development in the brain (PubMed:12034726). By promoting the stabilization of GAP43 mRNA, plays a role in NGF-mediated neurite outgrowth (By similarity). Binds to BDNF long 3'UTR mRNA, thereby leading to its stabilization and increased dendritic translation after activation of PKC (By similarity). By increasing translation of BDNF after nerve injury, may contribute to nerve regeneration (By similarity). Acts as a stabilizing factor by binding to the 3'UTR of NOVA1 mRNA, thereby increasing its translation and enhancing its functional activity in neuron-specific splicing (PubMed:18218628). Stimulates translation of mRNA in a poly(A)- and cap-dependent manner, possibly by associating with the EIF4F cap-binding complex (By similarity). May also negatively regulate translation by binding to the 5'UTR of Ins2 mRNA, thereby repressing its translation (By similarity). Upon glucose stimulation, Ins2 mRNA is released from ELAVL4 and translational inhibition is abolished (By similarity). Also plays a role in the regulation of alternative splicing (PubMed:17035636). May regulate alternative splicing of CALCA pre-mRNA into Calcitonin and Calcitonin gene-related peptide 1 (CGRP) by competing with splicing regulator TIAR for binding to U-rich intronic sequences of CALCA pre-mRNA (PubMed:17035636).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Stable for 12 months at -20°C, Store in the dark

Notes

What is this antibody validated in?
Alexa Fluor® 647 Anti-HuD + HuC antibody [EPR19098] (ab237235) is a rabbit recombinant monoclonal antibody and is validated for use in Immunohistochemistry (IHC-P) in Human, Mouse samples.

Related products
Antibody clone EPR19098 is also available pre-conjugated to a variety of labels for your convenience – Anti-HuC Alexa Fluor® 647 HuD + [EPR19098] (ab237235).

Other related products
We have a range of other formats of antibody clone [EPR19098] also available for your convenience: ab200342, Alexa Fluor® 647 - ab209609, Carrier free - ab242410, APC - ab310841, PE - ab310913, Alexa Fluor® 488 - ab310967, Alexa Fluor® 594 - ab311680, Alexa Fluor® 568 - ab312955, Alexa Fluor® 555 - ab313164, Alexa Fluor® 750 - ab321346, Carrier free - ab232416

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The HuD and HuC proteins also known as neuronal ELAV-like RNA binding proteins play critical roles in neuronal development and function. These proteins weigh approximately 37 kDa and are specifically expressed in neurons. They are part of the family of ELAV (Embryonic Lethal Abnormal Vision) proteins with HuD sometimes referred to as C HuD. HuD and HuC are involved in RNA stabilization processes by binding to AU-rich elements in the 3' untranslated regions (3' UTR) of mRNA which influence the regulation of mRNA turnover stability and translation.
Biological function summary	HuD and HuC proteins are integral to the regulation of gene expression during neuronal differentiation. They participate in RNA processing machinery and can form complexes with other RNA-binding proteins affecting the neuronal mRNA transcriptome. These interactions facilitate the stabilization and localization of mRNAs essential for synaptic plasticity and neuron functionality. Their presence highlights the post-transcriptional regulation mechanisms vital for nervous system development and function.
Pathways	HuD and HuC proteins are essential players in neuron-specific mRNA processing pathways. They interact closely with molecular pathways involved in learning and memory particularly those involving the MAPK/ERK pathway. They frequently co-regulate mRNA with other proteins like HuR a ubiquitous ELAV protein. These interactions assist in the modulation of gene expression profiles necessary for proper neuronal signaling and plasticity.
Associated diseases and disorders	HuD and HuC proteins are linked with conditions such as neurological cancer and neurodegenerative disorders. Their deregulation has been associated with neuroblastoma where aberrant expression influences tumor proliferation. Additionally alterations in HuD and HuC protein function have connections with Alzheimer's disease wherein their interactions with tau protein impact disease progression. Understanding these associations provides insights into potential therapeutic targets and interventions for such conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

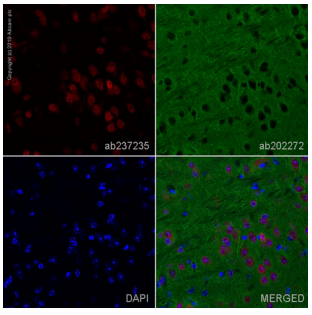
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-HuD + HuC antibody [EPR19098] (ab237235)

HuD + HuC Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HuD + HuC antibody

IHC image of HuD + HuC staining in a section of formalin-fixed paraffin-embedded normal mouse brain*. The section was pre-treated using heat mediated antigen retrieval with Tris/EDTA buffer (pH9, epitope retrieval solution 2) for 20mins, performed on a Leica BOND™. Non-specific protein-protein interactions were then blocked in TBS containing 0.025% (v/v) Triton X-100, 0.3M (w/v) glycine and 1% (w/v) BSA for 1h at room temperature. The section was then incubated overnight at +4°C in TBS containing 0.025% (v/v) Triton X-100 and 1% (w/v) BSA with ab237235 at 1/100 dilution (shown in red) and counterstained using ab202272, Rabbit monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in green). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.