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Igf2bp1 antibody - N-terminal region

Rabbit Polyclonal Antibody
Catalog # AI14285

Product Information

Application	WB
Primary Accession	O88477
Other Accession	NM_009951, NP_034081
Reactivity	Human, Mouse, Rat, Rabbit, Zebrafish, Dog, Guinea Pig, Horse, Bovine, Sheep
Predicted	Human, Rat, Dog, Guinea Pig, Horse, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	63451

Additional Information

Gene ID	140486
Alias Symbol	AL024068, AW549074, CRD-BP, Crdbp, D030026A21Rik, D11Moh40e, D11Moh45, IMP-1, Neilsen, Zbp1
Other Names	Insulin-like growth factor 2 mRNA-binding protein 1, IGF2 mRNA-binding protein 1, IMP-1, Coding region determinant-binding protein, CRD-BP, IGF-II mRNA-binding protein 1, VICKZ family member 1, Zipcode-binding protein 1, ZBP-1, Igf2bp1, Vickz1
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-Igf2bp1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	Igf2bp1 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Igf2bp1
Synonyms	Vickz1
Function	RNA-binding factor that recruits target transcripts to cytoplasmic protein-RNA complexes (mRNPs). This transcript 'caging' into mRNPs allows mRNA transport and transient storage (PubMed:15355996, PubMed:17264115, PubMed:21964071, PubMed:22465430, PubMed:23388827). It also modulates the rate and location at which target

transcripts encounter the translational apparatus and shields them from endonuclease attacks or microRNA-mediated degradation. Preferentially binds to N6-methyladenosine (m6A)-containing mRNAs and increases their stability (By similarity). Regulates localized beta- actin/ACTB mRNA translation, a crucial process for cell polarity, cell migration and neurite outgrowth. Co-transcriptionally associates with the ACTB mRNA in the nucleus. This binding involves a conserved 54- nucleotide element in the ACTB mRNA 3'-UTR, known as the 'zipcode'. The RNP thus formed is exported to the cytoplasm, binds to a motor protein and is transported along the cytoskeleton to the cell periphery. During transport, prevents ACTB mRNA from being translated into protein. When the RNP complex reaches its destination near the plasma membrane, IGF2BP1 is phosphorylated. This releases the mRNA, allowing ribosomal 40S and 60S subunits to assemble and initiate ACTB protein synthesis. Monomeric ACTB then assembles into the subcortical actin cytoskeleton (By similarity). During neuronal development, key regulator of neurite outgrowth, growth cone guidance and neuronal cell migration, presumably through the spatiotemporal fine tuning of protein synthesis, such as that of ACTB (By similarity). May regulate mRNA transport to activated synapses (By similarity). Binds to the 3'-UTR of CD44 mRNA and stabilizes it, hence promotes cell adhesion and invadopodia formation in cancer cells (By similarity). Binds to the oncofetal H19 transcript and regulates its localization (By similarity). Binds to and stabilizes BTRC/FBW1A mRNA (By similarity). Binds to the adenine-rich autoregulatory sequence (ARS) located in PABPC1 mRNA and represses its translation. PABPC1 mRNA-binding is stimulated by PABPC1 protein. Prevents BTRC/FBW1A mRNA degradation by disrupting microRNA-dependent interaction with AGO2 (By similarity). During cellular stress, such as oxidative stress or heat shock, stabilizes target mRNAs that are recruited to stress granules, including CD44, IGF2, MAPK4, MYC, PTEN, RAPGEF2 and RPS6KA5 transcripts (By similarity). Interacts with GAP43 transcript and transports it to axons. Binds to the 3'-UTR of IGF2 mRNA by a mechanism of cooperative and sequential dimerization and regulates IGF2 mRNA subcellular localization and translation (PubMed:23388827). Binds to MYC mRNA, in the coding region instability determinant (CRD) of the open reading frame (ORF), hence prevents MYC cleavage by endonucleases and possibly microRNA targeting to MYC-CRD. Binding to MYC mRNA is enhanced by m6A-modification of the CRD (By similarity). Binds to and stabilizes ABCB1/MDR-1 mRNA. Binds to the neuron-specific TAU mRNA and regulates its localization. Plays a direct role in the transport and translation of transcripts required for axonal regeneration in adult sensory neurons. During interstinal wound repair, interacts with and stabilizes PTGS2 transcript. PTGS2 mRNA stabilization may be crucial for colonic mucosal wound healing.

Cellular Location

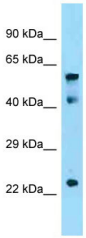
Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Cytoplasm, P-body {ECO:0000250|UniProtKB:Q9NZI8} Cytoplasm, Stress granule {ECO:0000250|UniProtKB:Q9NZI8}. Cell projection, lamellipodium. Cell projection, dendrite. Cell projection, dendritic spine. Cell projection, growth cone. Cell projection, filopodium. Cell projection, axon. Note=In the nucleus, located in discrete foci, coinciding with the sites of ACTB transcription (By similarity). In the cytoplasm, localizes in cytoplasmic mRNP granules. Colocalizes with microtubules in growth cone filopodia and along neurites in neuronal cells (By similarity) Cytoplasmic colocalization with ACTB mRNA is partially lost at the cell periphery, suggesting release of the transcript (By similarity). In hippocampal neurons, predominantly located within dendrites, particularly at dendritic branching points in young cells, compared to axons (By similarity). In axons, predominantly found in axonal branches and their growth cones (By similarity). In neuronal processes, exhibits fast retrograde and anterograde movements, when associated with ACTB mRNA; this motility is lost when the association is inhibited (By similarity). Dendritic levels are regulated by neuronal activity and glutaminergic signals: they are increased by KCl-induced depolarization, which induces rapid efflux from the cell body

	into dendrites, and decreased by NMDA receptor agonists (By similarity). In motile cells, such as migrating fibroblasts, localizes to leading edges where it colocalizes with microtubules and microfilaments and to retracting tails (By similarity). In motile cells, transported towards the leading edge into the cortical region of the lamellipodia where it is connected to microfilaments (By similarity). In response to cellular stress, such as oxidative stress or heat shock, recruited to stress granules, but not to processing bodies (By similarity).
Tissue Location	Expressed in zygotes and blastocysts (at protein level). Expressed in brain, skeletal muscle, trophoblasts of placenta, oocytes and spermatogonia (at protein level). Expressed in testis and ovary. Following colon injury, expressed in the wound bed mesenchyme during the first phase of repair, probably by colonic mesenchymal stem cells (at protein level).

References

Bernstein P.L.,et al.Genes Dev. 6:642-654(1992).
Prokipcak R.D.,et al.J. Biol. Chem. 269:9261-9269(1994).
Herrick D.J.,et al.Mol. Cell. Biol. 14:2119-2128(1994).
Leeds P.,et al.Oncogene 14:1279-1286(1997).
Doyle G.A.,et al.Nucleic Acids Res. 26:5036-5044(1998).

Images



WB Suggested Anti-Igf2bp1 Antibody Titration: 1.0 µg/ml
Positive Control: Mouse Thymus

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