

Rabbit IGF2BP1 Polyclonal Antibody | anti-IGF2BP1 antibody

IGF2BP1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326205	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

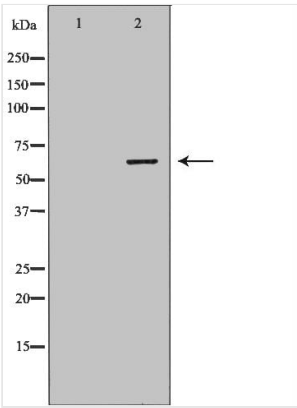
PRODUCT SYNONYMS

IGF2BP1; Polyclonal Antibody; IGF2BP1 Antibody; Coding region determinant-binding protein; CRD BP; CRD-BP; CRDBP; IF2B1; IF2B1_HUMAN; IGF II mRNA binding protein 1; IGF-II mRNA-binding protein 1; IGF2 mRNA binding protein 1; IGF2 mRNA-binding protein 1; IMP 1; IMP-1; IMP1; Insulin like growth factor 2 mRNA binding protein 1; Insulin-like growth factor 2 mRNA-binding protein 1; VICKZ family member 1; VICKZ1; ZBP 1; ZBP-1; ZBP1; Zip code binding protein 1; Zip code-binding protein 1; Zipcode binding protein 1; Zipcode-binding protein 1; anti-IGF2BP1 antibody

PRODUCT SPECIFICATIONS

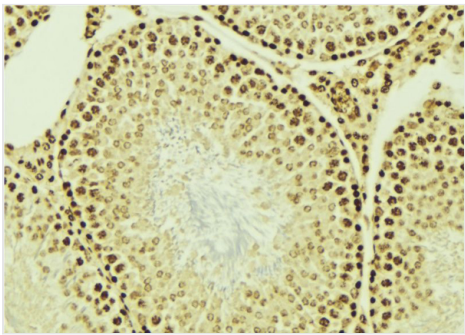
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	IGF2BP1 antibody detects endogenous levels of total IGF2BP1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	438
Applicable Applications for anti-IGF2BP1 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthetic peptide of human IGF2BP1
Subcellular Location	Nucleus. Cytoplasm. Cell projection > Lamellipodium. Cell Projection > Dendrite. Cell Projection > Dendritic Spine. Localized in cytoplasmic mRNP granules containing untranslated mRNAs. Targeted to stress granules (SGs), but not processing bodies (PBs), during cellular stress. Colocalizes with G3BP1 and TIAL1 in SGs. Colocalizes with HIV-1 GAG at the cell edges. Found in lamellipodia of the leading edge, in the perinuclear region, and beneath the plasma membrane. The subcytoplasmic localization is cell specific and regulated by cell contact and growth. Colocalized with H19 RNA at lamellipodia. Colocalized with CD44 mRNA in RNP granules. Nuclear export is mediated by XPO1/CRM1. In motile cells, is transported towards the leading edge into the cortical region of the lamellipodia where it is connected to microfilaments (By similarity). Present in the form of granules and into F-actin-rich protrusion of dendrites, spines and subsynaptic sites (By similarity). Colocalizes with beta-actin mRNA in dendrites and spines (By similarity). Exhibited rapid, bidirectional movements in dendrites and spines (By similarity). Neuronal depolarization by KCl induces its rapid efflux from the cell body into dendrites.
Tissue Specificity	Mainly expressed in the embryo, including in fetal liver, fetal lung, fetal kidney, fetal thymus (at protein level). Also expressed follicles of ovary, as well as in gonocytes of testis, spermatogonia, semen, oocytes and placenta (at protein level). Expressed in various cancers, including testis and lung cancers (at protein level), as well as kidney, prostate and trachea cancers.
Predicted Cross Reactivity	Pig, Bovine, Horse, Sheep, Rabbit, Dog
Similarity	Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%)
Conjugation	Unconjugated

IMAGES



WB (Western Blot)

Western blot analysis of Jurkat whole cell lysates, using IGF2BP1 Antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA326205 at 1/100 staining Mouse testis tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Related Product Information for anti-IGF2BP1 antibody

Description: Insulin-like growth factor-II mRNA-binding proteins (IMPs) belong to a family of zipcode-binding proteins (1, 2). Three members of this family, IMP1, IMP2, and IMP3, have been identified (1, 2). They contain two RNA recognition motifs, four K homology domains, and were found to function in mRNA localization, turnover, and translation control (1, 2). Research studies have implicated these proteins in a variety of physiological and pathological processes, such as growth and development (3), testicular neoplasia (4), and melanocytic neoplasia (5).

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. 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. Plays a direct role in the transport and translation of transcripts required for axonal regeneration in adult sensory neurons (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 and stabilizes ABCB1/MDR-1 mRNA (By similarity). During interstitial wound repair, interacts with and stabilizes PTGS2 transcript. PTGS2 mRNA stabilization may be crucial for colonic mucosal wound healing (By similarity). Binds to the 3'-UTR of IGF2 mRNA by a mechanism of cooperative and sequential dimerization and regulates IGF2 mRNA subcellular localization and translation. 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. Binds to the 3'-UTR of CD44 mRNA and stabilizes it, hence promotes cell adhesion and invadopodia formation in cancer cells. Binds to the oncofetal H19 transcript and to the neuron-specific TAU mRNA and regulates their localizations. Binds to and stabilizes BTRC/FBW1A mRNA. 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. Promotes the directed movement of tumor-derived cells by fine-tuning intracellular signaling networks. Binds to MAPK4 3'-UTR and inhibits its translation. Interacts with PTEN transcript open reading frame (ORF) and prevents mRNA decay. This combined action on MAPK4 (down-regulation) and PTEN (up-regulation) antagonizes HSPB1 phosphorylation, consequently it prevents G-actin sequestration by phosphorylated HSPB1, allowing F-actin polymerization. Hence enhances the velocity of cell migration and stimulates directed cell migration by PTEN-modulated polarization. Interacts with Hepatitis C virus (HCV) 5'-UTR and 3'-UTR and specifically enhances translation at the HCV IRES, but not 5'-cap-dependent translation, possibly by recruiting eIF3. Interacts with HIV-1 GAG protein and blocks the formation of infectious HIV-1 particles. Reduces HIV-1 assembly by inhibiting viral RNA packaging, as well as assembly and processing of GAG protein on cellular membranes. 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.

Subunit Structure: Can form homodimers and heterodimers with IGF2BP1 and IGF2BP3. Component of the coding region determinant (CRD)-mediated complex, composed of DHX9, HNRNPU, IGF2BP1, SYNCRIP and YBX1. During HCV infection, identified in a HCV IRES-mediated translation complex, at least composed of EIF3C, IGF2BP1, RPS3 and HCV RNA-replicon. Interacts (via the KH domains) with HIV-1 GAG (via the second zinc finger motif of NC). Associates (via the RRM domains and KH domains) with HIV-1 particles. Identified in a mRNP complex, composed of at least DHX9, DDX3X, ELAVL1, HNRNPU, IGF2BP1, ILF3, PABPC1, PCBP2, PTBP2, STAU1, STAU2, SYNCRIP and YBX1. Identified in a IGF2BP1-dependent mRNP granule complex containing untranslated mRNAs. Interacts with DHX9, ELAVL2, HNRNPA2B1, HNRNPC, HNRNPH1, HNRNPU, IGF2BP2, ILF2, and YBX1. Interacts with FMR1. Component of a multisubunit autoregulatory RNP complex (ARC), at least composed of IGF2BP1, PABPC1 and CSDE1/UNR. Directly interacts with PABPC1. Component of a TAU mRNP complex, at least composed of IGF2BP1, ELAVL4 and G3BP. Interacts with ELAVL4 in an RNA-dependent manner. Associates with microtubules and polysomes. Interacts with AGO1 and AGO2.

Post-translational Modifications: Phosphorylated. Phosphorylation may impair association with ACTB mRNA and hence abolishes translational repression (By similarity).

Similarity: Domain KH3 and KH4 are the major RNA-binding modules, although KH1 and KH2 may also contribute. KH1 and KH2, and possibly KH3 and KH4, promote the formation of higher ordered protein-RNA complexes, which may be essential for IGF2BP1 cytoplasmic retention. KH domains are required for RNA-dependent homo- and heterooligomerization and for localization to stress granules. KH3 and KH4 mediate association with the cytoskeleton. Two nuclear export signals (NES) have been identified in KH2 and KH4 domains, respectively. Only KH2 NES is XPO1-dependent. Both NES may be redundant, since individual in vitro mutations do not affect subcellular location of the full-length protein. The 4 KH domains are important to suppress HIV-1 infectivity. Belongs to the RRM IMP/VICKZ family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	238624257
NCBI GeneID	10642
NCBI Accession #	NP_001153895.1
NCBI GenBank Nucleotide #	NM_001160423.1
UniProt Accession #	Q9NZI8; C9JT33
Molecular Weight	Observed: 63 kDa Predicted: 64 kDa
NCBI Official Full Name	insulin-like growth factor 2 mRNA-binding protein 1 isoform 2
NCBI Official Synonym Full Names	insulin like growth factor 2 mRNA binding protein 1
NCBI Official Symbol	IGF2BP1
NCBI Official Synonym Symbols	IMP1; ZBP1; CRDBP; IMP-1; CRD-BP; VICKZ1
NCBI Protein Information	insulin-like growth factor 2 mRNA-binding protein 1
UniProt Protein Name	Insulin-like growth factor 2 mRNA-binding protein 1
UniProt Gene Name	IGF2BP1
UniProt Synonym Gene Names	CRDBP; VICKZ1; ZBP1; IGF2 mRNA-binding protein 1; IMP-1; IMP1; CRD-BP; ZBP-1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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