Datasheet for ABIN3093001

# IGF2BP1 Protein (AA 1-577) (Strep Tag)

Go to Product page

## Overview

| | |
|---|---|
| Quantity: | 250 µg |
| Target: | IGF2BP1 |
| Protein Characteristics: | AA 1-577 |
| Origin: | Human |
| Source: | Cell-free protein synthesis (CFPS) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This IGF2BP1 protein is labelled with Strep Tag. |
| Application: | ELISA, Western Blotting (WB), SDS-PAGE (SDS) |

## Product Details

| | |
|---|---|
| Brand: | AliCE® |
| Sequence: | MNKLYIGNLN ESVTPADLEK VFAEHKISYS GQFLVKSGYA FVDCPDEHWA MKAIETFSGK VELQGKRLEI EHSVPKKQRS RKIQIRNIPP QLRWEVLDSL LAQYGTVENC EQVNTESETA VVNVTYSNRE QTRQAIMKLN GHQLENHALK VSYIPDEQIA QGPENGRRGG FGSRGQPRQG SPVAAGAPAK QQQVDIPLRL LVPTQYVGAI IGKEGATIRN ITKQTQSKID VHRKENAGAA EKAISVHSTP EGCSSACKMI LEIMHKEAKD TKTADEVPLK ILAHNNFVGR LIGKEGRNLK KVEQDTETKI TISSLQDLTL YNPERTITVK GAIENCCRAE QEIMKKVREA YENDVAAMSL QSHLIPGLNL AAVGLFPASS SAVPPPPSSV TGAAPYSSFM QAPEQEMVQV FIPAQAVGAI IGKKGQHIKQ LSRFASASIK IAPPETPDSK VRMVIITGPP EAQFKAQGRI YGKLKEENFF GPKEEVKLET HIRVPASAAG RVIGKGGKTV NELQNLTAAE VVVPRDQTPD ENDQVIVKII GHFYASQMAQ RKIRDILAQV KQQHQKGQSN QAQARRK<br>**Sequence without tag. The proposed Strep-Tag is based on experience s with the expression** |

| | |
|---|---|
| | **system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.** |
| Characteristics: | Key Benefits:<br>• Made in Germany - from design to production - by highly experienced protein experts.<br>• Protein expressed with ALiCE® and purified in one-step affinity chromatography<br>• These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.<br>The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.<br><br>Expression System:<br>• ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.<br>• During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!<br><br>Concentration:<br>• The concentration of our recombinant proteins is measured using the absorbance at 280nm.<br>• The protein's absorbance will be measured against its specific reference buffer.<br>• We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein. |
| Purification: | One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®). |
| Purity: | > 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC). |
| Grade: | custom-made |

## Target Details

| | |
|---|---|
| Target: | IGF2BP1 |
| Alternative Name: | IGF2BP1 (IGF2BP1 Products) |
| Background: | Insulin-like growth factor 2 mRNA-binding protein 1 (IGF2 mRNA-binding protein 1) (IMP-1) (IMP1) (Coding region determinant-binding protein) (CRD-BP) (IGF-II mRNA-binding protein 1) (VICKZ family member 1) (Zipcode-binding protein 1) (ZBP-1),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. Preferentially binds to N6-methyladenosine (m6A)-containing mRNAs and increases their stability (PubMed:29476152, PubMed:32245947). 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 interstinal 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 preventing MYC cleavage by endonucleases and possibly microRNA targeting to MYC-CRD (PubMed:29476152). Binding to MYC mRNA is enhanced by m6A-modification of the CRD (PubMed:29476152). 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 |

## Target Details

| | |
|---|---|
| | 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. {ECO:0000250, ECO:0000269\|PubMed:10875929, ECO:0000269\|PubMed:16356927, ECO:0000269\|PubMed:16541107, ECO:0000269\|PubMed:16778892, ECO:0000269\|PubMed:17101699, ECO:0000269\|PubMed:17255263, ECO:0000269\|PubMed:17893325, ECO:0000269\|PubMed:18385235, ECO:0000269\|PubMed:19029303, ECO:0000269\|PubMed:19541769, ECO:0000269\|PubMed:19647520, ECO:0000269\|PubMed:20080952, ECO:0000269\|PubMed:22279049, ECO:0000269\|PubMed:29476152, ECO:0000269\|PubMed:32245947, ECO:0000269\|PubMed:8132663, ECO:0000269\|PubMed:9891060}. |
| Molecular Weight: | 63.5 kDa |
| UniProt: | Q9NZI8 |

## Application Details

| | |
|---|---|
| Application Notes: | In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Comment: | ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce |

## Application Details

| | |
|---|---|
| | even the most difficult-to-express proteins, including those that require post-translational modifications.<br>During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein! |
| Restrictions: | For Research Use only |

## Handling

| | |
|---|---|
| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer.<br>Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.** |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |