

Recombinant Mouse IRS1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51394

Size: 10ug, 100ug

Protein Name: Insulin receptor substrate 1 (IRS-1)

Synonym: Irs1, Irs-1

UniProt ID: P35569

UniProt Link: www.uniprot.org/uniprotkb/P35569/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1233 AA

Molecular Weight: 131 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MASPPD TDGFSDVRKVG YLRKPKSMHKRFFVLRAASEAGGPARLEY YENEKKWRHKSSAPKRSIPL
ESCFNINKRADSKN KHLVALYTRDEHF AIAADSEAEQDSWYQALLQLHNRAKAHHDGAGGGCGGS
CSGSSGVGEAGEDLSYDTGPGPAFKEVWQVILKPKGLGQTKNLIGIYRLCLTSKTISFVKLNSEAAAV
VLQLMNIRRCGHSENF FFIEVGRSAVTGPGEFWMQVDDSVVAQNMHETILEAMRAMSDEF RPRSKS
QSSSSCSNPISVPLRRHHLNPPPSQVGLTRRSRTESITATSPASMVG GKPGSFRVRASSDGEGTM
SRPASVDGSPVSPSTNRTHAHRHRGSSRLHPPLNHSRIPMPSSRCSPSATSPVSLSSSSTSGHGS
TSDCLFPRRSSASVSGSPSDGGFISSDEY GSSPCDFRSSF RSVTPDSLGHTPPARGEEELS NYICM
GGKGASTLAAPNGHYILSRGGNGHRYIPGANLGTSPALPGDEAAGAADLDNRFRKRTHSAGTSPTIS
HQKTPSQSSVASIEEYTEMMPAAYPPGGGSGGRLPGYRHSAFVPTHSYPEEGLEMHHLERRGGHH
RPDTSNLHTDDGYMPMSPGVAPVPSNRKNGDYMPMSPKSVSAPQQIINPIRRHPQRVDPNGYMM
MSPSGCSPDIGGGSSSSSSISAAPSGSSYGKPWTNGVGGHHTHALPHA KPPVESGGGKLLPCTG
DYMNMSPVGDSNTSSPSECYYGPEDPQH KPVLSYYSLPRSFKHTQRPGEPEEGARHQHLRLSSSS
GRLRYTATAEDSSSSTSSDSLGGGYCGARPES SLTHPHHHVLQPHLPRKVD TAAQTNSRLARPTRL
SLGDPKASTLPRVREQQQQQQSS LHPPEPKSPGEYVNIEFGSGQPGYLAGPATSRSSPSVRCPPQ
LHPAPREETGSEEYMNMDLGPGRATWQESGGVELGRIGPAPP GSATVCRPTRSV PNSRGDYMT
MQIGCPRQSYVDTSVPVPSYADMRTGIAAEKASLPRPTGAAPPSSTASSSASVTPQGATAEQAT
HSSLLGGPQGP GGMSAFTRVNLSPNH NQSAKVIRADTQGCRRRH SSETFSAPTRAGNTVPFGAGA
AVGGSGGGGGGGGSEDVKRHSSASFENVWLRPGDLGGVSKESAPVCGAAGGLEKSLNYIDL DLAKE
HSQDCPSQQQSLPPPPPHQPLGSNEGNSPRRSS EDSLNYASISFQKQPEDRQ

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Insulin receptor substrate 1 (IRS-1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Signaling adapter protein that participates in the signal transduction from two prominent receptor tyrosine kinases, insulin receptor/INSR and insulin-like growth factor I receptor/IGF1R. Plays therefore an important role in development, growth, glucose homeostasis as well as lipid metabolism (PubMed:7526222). Upon phosphorylation by the insulin receptor, functions as a signaling scaffold that propagates insulin action through binding to SH2 domain-containing proteins including the p85 regulatory subunit of PI3K, NCK1, NCK2, GRB2 or SHP2 (By similarity). Recruitment of GRB2 leads to the activation of the guanine nucleotide exchange factor SOS1 which in turn triggers the Ras/Raf/MEK/MAPK signaling cascade (By similarity). Activation of the PI3K/AKT pathway is responsible for most of insulin metabolic effects in the cell, and the Ras/Raf/MEK/MAPK is involved in the regulation of gene expression and in cooperation with the PI3K pathway regulates cell growth and differentiation (By similarity). Acts a positive regulator of the Wnt/beta-catenin signaling pathway through suppression of DVL2 autophagy-mediated degradation leading to cell proliferation (By similarity).

Subcellular Localization: Cytoplasm . Nucleus . Note=Nuclear or cytoplasmic localization of IRS1 correlates with the transition from proliferation to chondrogenic differentiation.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.