

Recombinant Mouse IRS2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51507

Size: 10ug, 100ug

Protein Name: Insulin receptor substrate 2 (IRS-2) (4PS)

Synonym: Irs2

UniProt ID: P81122

UniProt Link: www.uniprot.org/uniprotkb/P81122/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1321 AA

Molecular Weight: 137 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MASAPLPGPASAGGDGPNLNNNNNNNNHNSVRKCGYLKQKHGHRFFVLRGPGTGGDEASAAG
GSPQPQRLEYYESEKKWRSKAGAPKRVIALLDCCLNINKRADAKHKYLIALLYTKDEYFAVAANEQE
QEGWYRALTDLVSEGRSGEGSGTGGSCSASLPGLGGSAGAAGCDDNYGLVTPATAVYREVW
QVNLKPKGLGQSKNLTGVYRLCLSARTIGFVKLNCEQPSVTLQLMNIRRCGHSDSFFFIEVGRSAVT
GPGELWMQADDSVVAQNIHETILEAMKALKELFEFRPRSKSQSSGSSATHPIISVPGARRHHHLVNL
PSQTGLVRRSRDLSLAATPPAAKCTSCRVRTASEGDGGAAGGAGTAGGRPMSVAGSPLSPGPVRA
PLSRSHTLSAGCGGRPSKVTLPAGGALQHSRSMMPVAHSPPAATSPGSLSSSSGHGSGSYPLP
PGSHPHLPHLHPQGGQRPSSGSASASGSPSDPGFMSLDEYGSSPGDLRAFSSHRSTNPESIAET
PPARDGSGGELYGYMSMDRPLSHCGRPYRRVSGDGAQDLDRGLRKRTYSLTTPARQRQVPQPSS
ASLDEYTLMRATFSGSSGRLCPSFPASSPKVAYNPYPEDYGDIEIGSHKSSSSNLGADDGYMPMTP
GAALRSGGPNSCKSDDYMPMSPTSVSAPKILQPRLAALPPSGAAVPAPPSGVGRTPVNGGGY
KASSPAESSPEDSGYMRMWCGSKLSMENPDPKLLPNGDYLNMSPEAGTAGTPPDFSAALRGG
EGLKGIPGHYCYSSLPRSYKAPCSCSGDNDQYVLMSSPVGRILEERLEPQATPGAGTGAAGGSHT
QPHHSAPVSSMRPSAIGGRPEGFLGQRCRAVRPTRLGLEGLQTLPSMQEYPLPTEPKSPGEYINIDF
GEAGTRLSPAPLLASAASSSSLLSASSPASSLGSSTPGTSSDSRQRSPLSDYMNLDFFSSPKSPKP
STRSGDTVGSMDGLLSPEASSPYPLPPRPSTSPSSLQQLPPAPGDLYRLPPASAATSQGPTAGS
SMSSEPGDNGDYTEMAFGVAATPPQPIVAPPKPEGARVASPTSGLKRLSLMDQVSGVEAFLQVSQ
PPDPHRGAKVIRADPQGGRRRHSSETFSSTTTVTPVSPFAHNSKRHNSASVENVSLRKSSEGSST
LGGGDEPPTSPGQAQPLVAVPPVPQARPWNPGQPGALIGCPGGSSSPMRRETSSVGFQNGLNIAI



DVRGEQGSLAQSQPQPGDKNSWSRTRSLGLLGTVGGSGASGVCGGPGTGALPSASTYASIDFLS
HHLKEATVVKE

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 2 (IRS-2) (4PS) 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:9495343, PubMed:25830382). 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 (PubMed:25830382). Acts as a positive regulator of the Wnt/beta-catenin signaling pathway through suppression of DVL2 autophagy-mediated degradation leading to cell proliferation. Plays a role in cell cycle progression by promoting a robust spindle assembly checkpoint (SAC) during M-phase. In macrophages, IL4-induced tyrosine phosphorylation of IRS2 leads to the recruitment and activation of phosphoinositide 3-kinase (PI3K) (By similarity).

Subcellular Localization: Cytoplasm, cytosol .

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.