PRAS40 Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	PRAS40, Blocking Peptide
Full Product Name	PRAS40 Blocking Peptide
Product Gene Name	PRAS40 blocking peptide
Product Synonym Names	40 kDa proline rich AKT substrate; 40 kDa proline-rich AKT substrate; AKT1 S1; AKT1 substrate 1 (proline rich); AKT1 substrate 1; AKT1S 1; AKT1S1; AKTS1_HUMAN; Lobe; MGC2865; PRAS 40; PRAS; PRAS40; Proline rich akt substrate; Proline rich Akt substrate 40 kDa; Proline-rich AKT1 substrate 1
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml.
Purity/Purification	The purity is >90%,tested by HPLC and MS.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	PRAS40 peptide (MBS9618937) is used for blocking the activity of PRAS40 antibody (MBS9611216)
Molecular Weight	27,383 Da
Chromosome Location	Chromosome: 19; NC_000019.9 (50372296..50380644, complement). Location: 19q13.33
OMIM	610221
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Notes	For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for PRAS40 blocking peptide	Blocking/Control
Related Product Information for PRAS40 blocking peptide	Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody.
Other Notes	Small volumes of PRAS40 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PRAS40 purchase	MBS9618937 is a blocking peptide targeting PRAS40.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PRAS40. It may not necessarily be applicable to this product.

NCBI GI #	148806906
NCBI GeneID	84335
NCBI Accession #	NP_001092102.1

UniProt Primary Accession #	Q96B36
UniProt Secondary Accession #	Q96BI4; Q96IK7; Q96NG2; Q9BWR5; A8MTQ1; B2RE93
UniProt Related Accession #	Q96B36
GenBank Nucleotide #	NP_001092102.1
NCBI Official Full Name	proline-rich AKT1 substrate 1 isoform b
NCBI Official Synonym Full Names	AKT1 substrate 1 (proline-rich)
NCBI Official Symbol	AKT1S1
NCBI Official Synonym Symbols	Lobe; PRAS40
UniProt Protein Name	Proline-rich AKT1 substrate 1
UniProt Synonym Protein Names	40 kDa proline-rich AKT substrate
UniProt Gene Name	AKT1S1
UniProt Synonym Gene Names	PRAS40
UniProt Entry Name	AKTS1_HUMAN
NCBI Protein Information	proline-rich AKT1 substrate 1; 40 kDa proline-rich AKT substrate
NCBI Summary for PRAS40	AKT1S1 is a proline-rich substrate of AKT (MIM 164730) that binds 14-3-3 protein (see YWHAH, MIM 113508) when phosphorylated (Kovacina et al., 2003 [PubMed 12524439]).[supplied by OMIM, Mar 2008]
UniProt Comments for PRAS40	Function: Subunit of mTORC1, which regulates cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino acids. Growth factor-stimulated mTORC1 activation involves a AKT1-mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potently activates the protein kinase activity of mTORC1. Amino acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eiF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-389', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Within mTORC1, AKT1S1 negatively regulates mTOR activity in a manner that is dependent on its phosphorylation state and binding to 14-3-3 proteins. Inhibits RHEB-GTP-dependent mTORC1 activation. Substrate for AKT1 phosphorylation, but can also be activated by AKT1-independent mechanisms. May also play a role in nerve growth factor-mediated neuroprotection. Ref.6 Ref.8 Ref.9 Subunit structure: Part of the mammalian target of rapamycin complex 1 (mTORC1) which contains MTOR, MLST8, RPTOR, AKT1S1/PRAS40 and DEPTOR. mTORC1 binds to and is inhibited by FKBP12-rapamycin. Interacts directly with RPTOR. The phosphorylated form interacts with 14-3-3 proteins. Ref.5 Ref.8 Ref.9 Subcellular location: Cytoplasm › cytosol By similarity. Note: Found in the cytosolic fraction of the brain By similarity. Tissue specificity: Widely expressed with highest levels of expression in liver and heart. Expressed at higher levels in cancer cell lines (e.g. A-549 and HeLa) than in normal cell lines (e.g. HEK293). Ref.5 Ref.6 Post-translational modification: Phosphorylated by AKT1. Phosphorylation relieves inhibitory function on mTORC1. Ref.5 Sequence caution: The sequence AAH00031.2 differs from that shown. Reason: Erroneous initiation.
Research Articles on PRAS40	**1.** study found tuberin and PRAS40 to be potent anti-apoptotic gatekeepers in early stem-cell differentiation; data allow new insights into the regulation of early stem-cell maintenance and differentiation and identify a new role of the tumor suppressor tuberin and the oncogenic protein PRAS40

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