Phospho-GLUT1 (Ser490) Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	GLUT1, Blocking Peptide
Full Product Name	Phospho-GLUT1 (Ser490) Blocking Peptide
Product Gene Name	GLUT1 blocking peptide
Product Synonym Gene Name	SLC2A1
Product Synonym Names	Choreoathetosis/spasticity episodic (paroxysmal choreoathetosis/spasticity); CSE; DYT17; DYT18; DYT9; EIG12; erythrocyte/brain; Erythrocyte/hepatoma glucose transporter; facilitated glucose transporter member 1; Glucose transporter 1; Glucose transporter type 1; Glucose transporter type 1, erythrocyte/brain; GLUT; GLUT-1; GLUT1; GLUT1DS; GLUTB; GT1; GTG1; Gtg3; GTR1_HUMAN; HepG2 glucose transporter; HTLVR; Human T cell leukemia virus (I and II) receptor; MGC141895; MGC141896; PED; RATGTG1; Receptor for HTLV 1 and HTLV 2; SLC2A1; Solute carrier family 2 (facilitated glucose transporter), member 1; Solute carrier family 2; Solute carrier family 2, facilitated glucose transporter member 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	GLUT1 (Ser490) peptide (MBS9616080) is used for blocking the activity of GLUT1 (Ser490) antibody (MBS9612799)
Molecular Weight	54,084 Da
Chromosome Location	Chromosome: 1; NC_000001.10 (43391046..43424847, complement). Location: 1p34.2
OMIM	138140
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 GLUT1 blocking peptide	Blocking/Control
Related Product Information for GLUT1 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 GLUT1 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 GLUT1 purchase	MBS9616080 is a blocking peptide targeting GLUT1. Also known as Phospho-GLUT1 (Ser490) Blocking Peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GLUT1. It may not necessarily be applicable to this product.

NCBI GI #	166795299
NCBI GeneID	6513
NCBI Accession #	NP_006507.2
UniProt Primary Accession #	P11166
UniProt Secondary Accession #	O75535; Q147X2; A8K9S6; B2R620; D3DPX0
UniProt Related Accession #	P11166
GenBank Nucleotide #	NM_006516.2
NCBI Official Full Name	solute carrier family 2, facilitated glucose transporter member 1
NCBI Official Synonym Full Names	solute carrier family 2 (facilitated glucose transporter), member 1
NCBI Official Symbol	SLC2A1
NCBI Official Synonym Symbols	PED; DYT9; GLUT; DYT17; DYT18; EIG12; GLUT1; HTLVR; GLUT1DS
UniProt Protein Name	Solute carrier family 2, facilitated glucose transporter member 1
UniProt Synonym Protein Names	Glucose transporter type 1, erythrocyte/brain; GLUT-1; HepG2 glucose transporter
Protein Family	Glucose transporter
UniProt Gene Name	SLC2A1
UniProt Synonym Gene Names	GLUT1; GLUT-1
UniProt Entry Name	GTR1_HUMAN
NCBI Protein Information	solute carrier family 2, facilitated glucose transporter member 1; GLUT-1; hepG2 glucose transporter; glucose transporter type 1, erythrocyte/brain; human T-cell leukemia virus (I and II) receptor
NCBI Summary for GLUT1	This gene encodes a major glucose transporter in the mammalian blood-brain barrier. The encoded protein is found primarily in the cell membrane and on the cell surface, where it can also function as a receptor for human T-cell leukemia virus (HTLV) I and II. Mutations in this gene have been found in a family with paroxysmal exertion-induced dyskinesia. [provided by RefSeq, Apr 2013]

UniProt Comments for GLUT1	GLUT1: an integral membrane protein that plays an important role in the glycolytic pathway by serving as a uniporter for glucose. One of 13 members of the human equilibrative glucose transport protein family. Transports a wide range of aldoses, including both pentoses and hexoses, and dehydroascorbic acid. Shown to transport water against an osmotic gradient. A receptor for the Human T-cell Leukemia virus (HTLV). Plays a role in the constitutive or basal uptake of glucose. Expressed at highest levels in proliferating cells of the early developing embryo, cells forming the blood tissue barriers, in human erythrocytes, astrocytes and in cardiac muscle. GLUT1 and GLUT3 are both essential for normal embryonic development. Is practically the only member of the GLUT family expressed on human red blood cells, where it comprises 10 - 20% of the integral membrane protein content. Several glycolytic proteins including the transporters GLUT1 and GLUT3, as well as multiple enzymes including HK2, PFKL, LDHA, ALDOA, ALDOC, PGK1, ENO1, PKM2, CA9 and PFKFB3 are induced in cancer cells by HIF-1 alpha. Polyps from Peutz-Jeghers patients exhibit up-regulated mTORC1 signaling, HIF-1alpha, and GLUT1 levels. Defects in GLUT1 are the cause of autosomal dominant GLUT1 deficiency syndrome, a blood-brain barrier glucose transport defect characterized by infantile seizures, delayed development, and acquired microcephaly. Defects also cause dystonia type 18, an exercise-induced paroxysmal dystonia/dyskinesia. Cytochalasin B binds to its inner surface, inhibiting its glucose transport activity with an IC50 of 0.44 uM. Protein type: Membrane protein, integral; Membrane protein, multi-pass; Transporter, SLC family; Transporter Chromosomal Location of Human Ortholog: 1p34.2 Cellular Component: cortical actin cytoskeleton; membrane; basolateral plasma membrane; integral to plasma membrane; melanosome; plasma membrane; female pronucleus; midbody; caveola; intercellular junction; cytosol Molecular Function: identical protein binding; D-glucose transmembrane transporter activity; xenobiotic transporter activity; protein binding; protein self-association; dehydroascorbic acid transporter activity; glucose transmembrane transporter activity; kinase binding Biological Process: cellular response to glucose starvation; vitamin metabolic process; hexose transport; carbohydrate metabolic process; L-ascorbic acid metabolic process; energy reserve metabolic process; pathogenesis; xenobiotic transport; protein complex assembly; glucose transport; response to osmotic stress; transmembrane transport; regulation of insulin secretion; water-soluble vitamin metabolic process Disease: Epilepsy, Idiopathic Generalized, Susceptibility To, 12; Dystonia 9; Glut1 Deficiency Syndrome 1; Glut1 Deficiency Syndrome 2
Research Articles on GLUT1	**1.** The present meta-analysis shows consistently increased striatal dopamine synthesis capacity in schizophrenia, with a 14% elevation in patients as compared with healthy controls.
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