FBP1 cDNA Clone – Fructose-1,6-Bisphosphatase 1 (Human)

PRODUCT OVERVIEW

Product Name	FBP1, cDNA Clone
Full Product Name	FBP1 cDNA Clone
Product Gene Name	FBP1 cdna clone
Sequence	atggctgacc aggcgccctt cgacacggac gtcaacaccc tgacccgctt cgtcatggag gagggcagga aggcccgcgg cacgggcgag ttgacccagc tgctcaactc gctctgcaca gcagtcaaag ccatctcttc ggcggtgcgc aaggcgggca tcgcgcacct ctatggcatt gctggttcta ccaacgtgac aggtgatcaa gttaagaagc tggacgtcct ctccaacgac ctggttatga acatgttaaa gtcatccttt gccacgtgtg ttctcgtgtc agaagaagat aaacacgcca tcatagtgga accggagaaa aggggtaaat atgtggtctg ttttgatccc cttgatggat cttccaacat cgattgcctt gtgtccgttg gaaccatttt tggcatctat agaaagaaat caactgatga gccttctgag aaggatgctc tgcaaccagg ccggaacctg gtggcagccg gctacgcact gtatggcagt gccaccatgc tggtccttgc catggactgt ggggtcaact gcttcatgct ggacccggcc atcggggagt tcattttggt ggacaaggat gtgaagataa aaaagaaagg taaaatctac agccttaacg agggctacgc cagggacttt gaccctgccg tcactgagta catccagagg aagaagttcc ccccagataa ttcagctcct tatggggccc ggtatgtggg ctccatggtg gctgatgttc atcgcactct ggtctacgga gggatatttc tgtaccccgc taacaagaag agccccaatg gaaagctgag actgctgtac gaatgcaacc ccatggccta cgtcatggag aaggctgggg gaatggccac cactgggaag gaggccgtgt tagacgtcat tcccacagac attcaccaga gggcgccggt gatcttggga tcccccgacg acgtgctcga gttcctgaag gtgtatgaga agcactctgc ccagtga
Molecular Weight	36,842 Da
OMIM	229700
Vector	pENTR223.1 or pUC
Clone Sequence Report	Provided with product shipment
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for FBP1 cdna clone	MBS1278913 is a cDNA clone targeting FBP1.
Other Notes	Small volumes of FBP1 cdna clone 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for FBP1. It may not necessarily be applicable to this product.

NCBI GI #	15277850
NCBI GeneID	2203
NCBI Accession #	BC012927
UniProt Secondary Accession #	O75571; Q53F94; Q96E46
UniProt Related Accession #	P09467
NCBI Official Full Name	Homo sapiens fructose-1,6-bisphosphatase 1, mRNA
NCBI Official Synonym Full Names	fructose-bisphosphatase 1
NCBI Official Symbol	FBP1
NCBI Official Synonym Symbols	FBP
UniProt Protein Name	Fructose-1,6-bisphosphatase 1

UniProt Synonym Protein Names	D-fructose-1,6-bisphosphate 1-phosphohydrolase 1; Liver FBPase
Protein Family	Fat-body protein
UniProt Gene Name	FBP1
UniProt Synonym Gene Names	FBP; FBPase 1
UniProt Entry Name	F16P1_HUMAN
NCBI Protein Information	fructose-1,6-bisphosphatase 1
NCBI Summary for FBP1	Fructose-1,6-bisphosphatase 1, a gluconeogenesis regulatory enzyme, catalyzes the hydrolysis of fructose 1,6-bisphosphate to fructose 6-phosphate and inorganic phosphate. Fructose-1,6-diphosphatase deficiency is associated with hypoglycemia and metabolic acidosis. [provided by RefSeq, Jul 2008]
UniProt Comments for FBP1	FBPase: a key enzyme of gluconeogenesis that catalyzes the hydrolysis of fructose 1,6-bisphosphate to fructose 6-phosphate, a precursor to glucose 6-phosphate. A regulator of glucose synthesis from non-carbohydrates. Two paralogs of this enzyme exists in humans, FBP1 in the liver and FBP2 in muscle. While both forms are inhibited allosterically by AMP, NAD and Ca2+, the muscle form is about 100-fold more sensitive to AMP and NAD, and about 1000-fold more sensitive to inhibition by Ca2+. Forms homotetramers that are stabilized in the active state by divalent cations (Mg2+, Mn2+ , Co+2, or Zn2+). Deficiency of FBP1 leads to a disorder mainly in the liver and causes life-threatening episodes of hypoglycemia and metabolic acidosis (lactacidemia) in newborn infants or young children. Protein type: Carbohydrate Metabolism - glycolysis and gluconeogenesis; Carbohydrate Metabolism - pentose phosphate pathway; EC 3.1.3.11; Mitochondrial; Carbohydrate Metabolism - fructose and mannose; Phosphatase (non-protein) Chromosomal Location of Human Ortholog: 9q22.3 Cellular Component: cytoplasm; cytosol Molecular Function: AMP binding; fructose-bisphosphatase activity; identical protein binding; metal ion binding; monosaccharide binding; protein binding Biological Process: dephosphorylation; fructose 6-phosphate metabolic process; fructose metabolic process; gluconeogenesis; negative regulation of cell growth; negative regulation of glycolysis; negative regulation of Ras protein signal transduction; protein homotetramerization; regulation of gluconeogenesis Disease: Fructose-1,6-bisphosphatase Deficiency
Research Articles on FBP1	**1.** Twelve different mutations were identified in 22 alleles: one missense mutation c.472C > T, one point deletion c.48del, one point duplication c.865dupA, one deletion-insertion, and two splice mutations (c.427-1del and c.825 + 1G > A).
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