MAN1B1 cDNA Clone – Mannosidase, Alpha, Class 1b, Member 1 (Human)

PRODUCT OVERVIEW

Product Name	MAN1B1, cDNA Clone
Full Product Name	MAN1B1 cDNA Clone
Product Gene Name	MAN1B1 cdna clone
Sequence	atggctgcct gcgagggcag gagaagcgga gctctcggtt cctctcagtc ggacttcctg acgccgccag tgggcggggc cccttgggcc gtcgccacca ctgtagtcat gtacccaccg ccgccgccgc cgcctcatcg ggacttcatc tcggtgacgc tgagctttgg cgagaactat gacaacagca agagttggcg gcggcgctcg tgctggagga aatggaagca actgtcgaga ttgcagcgga atatgattct cttcctcctt gcctttctgc ttttctgtgg actcctcttc tacatcaact tggctgacca ttggaaagct ctggctttca ggctagagga agagcagaag atgaggccag aaattgctgg gttaaaacca gcaaatccac ccgtcttacc agctcctcag aaggcggaca ccgaccctga gaacttacct gagatttcgt cacagaagac acaaagacac atccagcggg gaccacctca cctgcagatt agacccccaa gccaagacct gaaggatggg acccaggagg aggccacaaa aaggcaagaa gcccctgtgg atccccgccc ggaaggagat ccgcagagga cagtcatcag ctggagggga gcggtgatcg agcctgagca gggcaccgag ctcccttcaa gaagagcaga agtgcccacc aagcctcccc tgccaccggc caggacacag ggcacaccag tgcatctgaa ctatcgccag aagggcgtga ttgacgtctt cctgcatgca tggaaaggat accgcaagtt tgcatggggc catgacgagc tgaagcctgt gtccaggtcc ttcagtgagt ggtttggcct cggtctcaca ctgatcgacg cgctggacac catgtggatc ttgggtctga ggaaagaatt tgaggaagcc aggaagtggg tgtcgaagaa gttacacttt gaaaaggacg tggacgtcaa cctgtttgag agcacgatcc gcatcctggg ggggctcctg agtgcctacc acctgtctgg ggacagcctc ttcctgagga aagctgagga ttttggaaat cggctaatgc ctgccttcag aacaccatcc aagattcctt actcggatgt gaacatcggt actggagttg cccacccgcc acggtggacc tccgacagca ctgtggccga ggtgaccagc attcagctgg agttccggga gctctcccgt ctcacagggg ataagaagtt tcaggaggca gtggagaagg tgacacagca catccacggc ctgtctggga agaaggatgg gctggtgccc atgttcatca atacccacag tggcctcttc acccacctgg gcgtattcac gctgggcgcc agggccgaca gctactatga gtacctgctg aagcagtgga tccagggcgg gaagcaggag acacagctgc tggaagacta cgtggaagcc atcgagggtg tcagaacgca cctgctgcgg cactccgagc ccagtaagct caccttgtg ggggagcttg cccacggccg cttcagtgcc aagatggacc acctggtgtg cttcctgcca gggacgctgg ctctgggcgt ctaccacggc ctgcccgcca gccacatgga gctggcccag gagctcatgg agacttgtta ccagatgaac cggcagatgg agacggggct gagtcccgag atcgtgcact tcaaccttta cccccagccg ggccgtcggg acgtggaggt caagccagca gacaggcaca acctgctgcg gccagagacc gtggagagcc tgttctacct gtaccgcgtc acaggggacc gcaaatacca ggactggggc tgggagattc tgcagagctt cagccgattc acacgggtcc cctcgggtgg ctattcttcc atcaacaatg tccaggatcc tcagaagccc gagcctaggg acaagatgga gagcttcttc ctgggggaga cgctcaagta tctgttcttg ctcttctccg atgacccaaa cctgctcagc ctggacgcct acgtgttcaa caccgaagcc caccctctgc ctatctggac ccctgcctag
Molecular Weight	79,580 Da
OMIM	604346
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 MAN1B1 cdna clone	MBS1272348 is a cDNA clone targeting MAN1B1.
Other Notes	Small volumes of MAN1B1 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 MAN1B1. It may not necessarily be applicable to this product.

NCBI GI #	13543862
NCBI GeneID	11253
NCBI Accession #	BC006079
UniProt Secondary Accession #	Q5VSG3; Q9BRS9; Q9Y5K7

UniProt Related Accession #	Q9UKM7
NCBI Official Full Name	Homo sapiens mannosidase, alpha, class 1B, member 1, mRNA
NCBI Official Synonym Full Names	mannosidase alpha class 1B member 1
NCBI Official Symbol	MAN1B1
NCBI Official Synonym Symbols	MRT15; ERMAN1; ERManI; MANA-ER
UniProt Protein Name	Endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase
UniProt Synonym Protein Names	ER alpha-1,2-mannosidase; ER mannosidase 1; ERMan1; Man9GlcNAc2-specific-processing alpha-mannosidase; Mannosidase alpha class 1B member 1
Protein Family	Endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase
UniProt Gene Name	MAN1B1
UniProt Synonym Gene Names	ERMan1
UniProt Entry Name	MA1B1_HUMAN
NCBI Protein Information	endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase
NCBI Summary for MAN1B1	This gene encodes an enzyme belonging to the glycosyl hydrolase 47 family. This enzyme functions in N-glycan biosynthesis, and is a class I alpha-1,2-mannosidase that specifically converts Man9GlcNAc to Man8GlcNAc isomer B. It is required for N-glycan trimming to Man5-6GlcNAc2 in the endoplasmic-reticulum-associated degradation pathway. Mutations in this gene cause autosomal-recessive intellectual disability. Alternative splicing results in multiple transcript variants. A related pseudogene has been identified on chromosome 11. [provided by RefSeq, Dec 2011]
UniProt Comments for MAN1B1	MAN1B1: Involved in glycoprotein quality control targeting of misfolded glycoproteins for degradation. It primarily trims a single alpha-1,2-linked mannose residue from Man(9)GlcNAc(2) to produce Man(8)GlcNAc(2), but at high enzyme concentrations, as found in the ER quality control compartment (ERQC), it further trims the carbohydrates to Man(5-6)GlcNAc(2). Defects in MAN1B1 are the cause of mental retardation autosomal recessive type 15 (MRT15). Mental retardation is characterized by significantly below average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. Belongs to the glycosyl hydrolase 47 family. Protein type: Calcium-binding; EC 3.2.1.113; Endoplasmic reticulum; Glycan Metabolism - N-glycan biosynthesis; Hydrolase; Membrane protein, integral Chromosomal Location of Human Ortholog: 9q34 Cellular Component: endoplasmic reticulum; Golgi apparatus; integral to membrane; membrane Molecular Function: alpha-mannosidase activity; calcium ion binding; mannosyl-oligosaccharide 1,2-alpha-mannosidase activity Biological Process: ER-associated protein catabolic process; N-glycan processing; oligosaccharide metabolic process Disease: Mental Retardation, Autosomal Recessive 15
Research Articles on MAN1B1	**1.** Data show that HIV-1 env protein interacts with alpha-mannosidases ERManI (MAN1B1) and initiates endoplasmic reticulum (ER)-associated protein degradation (ERAD) pathway degradation process.
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