

Product datasheet for **RC208134**

Mannose Phosphate Isomerase (MPI) (NM_002435) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mannose Phosphate Isomerase (MPI) (NM_002435) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mannose Phosphate Isomerase
Synonyms:	CDG1B; PMI; PMI1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC208134 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCCGCTCCGCGAGTATCCCACTTTCTGTGCGGTGCAGCAGTATGCCTGGGGGAAGATGGGTCCA
 ACAGCGAAGTGGCGCGGCTGTTGGCCAGCAGTGATCCACTGGCCAGATCGCAGAGGACAAGCCTTATGC
 AGAGTTGTGGATGGGACTCACCCCGAGGGGATGCCAAGATCCTTGACAACCGCATCTCACAGAAGACC
 CTAAGCCAGTGGATTGCTGAGAACCAGGACAGCTTGGGCTCAAAGGTCAAGGACACCTTTAATGGCAACC
 TGCCCTTCTCTCAAAGTGCTCTCAGTTGAAACACCCCTGTCCATCCAGGCACACCCTAACAAAGGAGCT
 GGCAGAGAAGCTGCACCTCCAGGCTCCGCAGCACTACCCCGATGCCAACCACAAGCCAGAGATGGCCATT
 GCCCTCACCCCTTCCAGGGCTTGTGTGGCTTCCGGCCAGTTGAGGAGATTGTAACCTTTCTAAAGAAGG
 TGCTGAGTTTCAGTTCTGATTGGAGATGAGGCAGCAACACACCTGAAGCAGACCATGAGCCATGACTC
 CCAGGCTGTGGCCTCCTCTCTGCAGAGCTTTTCTCCACCTGATGAAGAGTGAGAAGAAGTGGTGGTG
 GAACAGCTCAACCTGTTGGTGAAGCGGATCTCCAGCAAGCGGCTGCCGGAACAACATGGAGGACATCT
 TTGGGGAGCTTTTGTACAGCTGCACCAGCAGTACCCAGGTGATATCGGCTGCTTTGCCATCTACTTCT
 GAACCTGCTTACCTGAAGCCTGGGGAGGCCATGTTTCTGGAGGCCAACGTACCCCATGCCTACCTGAAA
 GGAGACTGCGTGGAGTGCATGGCGTGTTCAGACAACACAGTTCTGTGCTGGCCTGACACCCAAGTTTATTG
 ATGTGCCAACCTGTGTGAAATGCTCAGCTATACCCCTAGCTCCAGCAAGGACAGGCTCTTTCTCCCAAC
 ACGGAGTCAGGAAGACCCCTACCTCTCAATCTATGACCCCTGTACCAGACTTCACCATTATGAAGACG
 GAGGTCCCTGGCTCTGTCACTGAATAACAAGTCTTGGCACTGGACTCTGCCAGCATCCTCCTGATGGTAC
 AGGGGACAGTAATAGCCAGCACACCCACAACCCAGACACCAATCCCTCTGCAACGTGGTGGCGTGTCTT
 CATTGGGGCCAATGAGAGTGTCTCACTGAAGCTTACTGAGCCGAAGGACCTGCTGATATCCGTGCCTGC
 TGCTGTCTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC208134 protein sequence
 Red=Cloning site Green=Tags(s)

MAAPRVFPLSCAVQYAWGKMGSNSEVARLLASSDPLAQIAEDKPYAELWMGTHPRGDAKILDNRISQKT
 LSQWIAENQDSLGSVKDFTFNGNLPFLFKVL SVETPLSIQAHPNKELAEKLHLQAPQHYPDANHKPEMAI
 ALTPFQGLCGFRPVVEIIVTFLKKVPEFQFLIGDEAATHLKQTMSHDSQAVASSLQSCF SHLMKSEKKVVV
 EQLNLLVKRISQQAAGNMMEDIFGELLLQLHQYYPGDIGCFIYFLNLLTLKPGEAMFLEANVPHAYLK
 GDCVECMACSDNTVRAGLTPKFIDVPTLCEMLSYTPSSSKDRLFLPTRSQEDPYLSIYDPPVPDFTIMKT
 EVPGSVTEYKVLALDSASILMVQGTVIASPTTQTPIPLQRGGVLFIGANESVSLKLTPEKDLLIFRAC
 CLL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6089_f07.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_002435

ORF Size: 1269 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_002435.3](#)

RefSeq Size: 3077 bp

RefSeq ORF: 1272 bp

Locus ID: 4351

UniProt ID: [P34949](#)

Cytogenetics: 15q24.1

Domains: PMI_typel

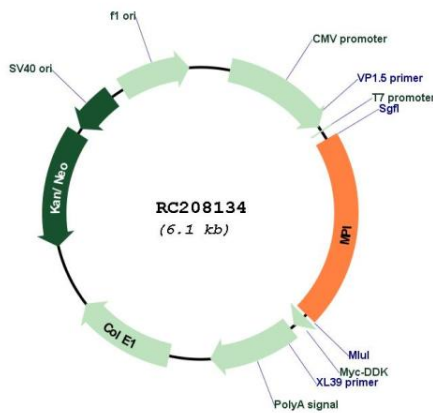
Protein Families: ES Cell Differentiation/IPS

Protein Pathways: Amino sugar and nucleotide sugar metabolism, Fructose and mannose metabolism, Metabolic pathways

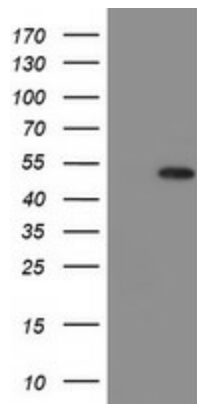
MW: 46.7 kDa

Gene Summary: Phosphomannose isomerase catalyzes the interconversion of fructose-6-phosphate and mannose-6-phosphate and plays a critical role in maintaining the supply of D-mannose derivatives, which are required for most glycosylation reactions. Mutations in the MPI gene were found in patients with carbohydrate-deficient glycoprotein syndrome, type Ib. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jan 2014]

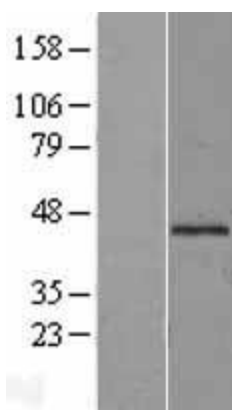
Product images:



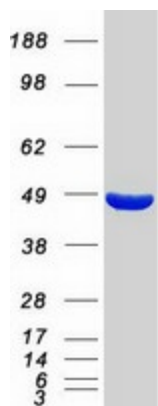
Circular map for RC208134



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MPI (Cat# RC208134, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MPI (Cat# [TA504749]). Positive lysates [LY419324] (100ug) and [LC419324] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419324]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208134 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MPI protein (Cat# [TP308134]). The protein was produced from HEK293T cells transfected with MPI cDNA clone (Cat# RC208134) using MegaTran 2.0 (Cat# [TT210002]).