

Product datasheet for **MG208187**

P4hb (NM_011032) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	P4hb (NM_011032) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	P4hb
Synonyms:	ERp59; PDI; Pdia1; Thbp
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG208187 representing NM_011032
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGCTGAGCCGTGCTTTGCTGTGCCTAGCCCTGGCTGGCGGGCTAGGGTGGCGCCGACGCCCTGGAGG
 AGGAGGACAACGTCTGGTGTGAAGAAGAGCAACTTCGAGGAGGCGCTGGCGGCCACAAGTACCTGCT
 GGTGGAGTTCTATGCCCGTGGTGTGGCCACTGCAAAGCTCTGGCTCCCGAGTATGCCAAAGCTGCCGCA
 AAACTGAAGGCAGAAGGCTCTGAGATTCGACTAGCAAAGTGGATGCCACAGAAGAGTCTGACCTGGCTC
 AGCAGTATGGTGTCCGTGGCTACCCACAATCAAGTTCTCAAGAATGGAGACACAGCCTCCCAAAGGA
 ATATACAGCTGGCAGGGAAGCTGATGACATTGTCAACTGGCTGAAGAAACGCACGGGCCAGCAGCTACA
 ACCCTGTCTGACTGCAGCTGCAGAGTCTTGGTGGACTCAAGCGAAGTACGGTCATCGGTTTCTTCA
 AGGACGTAGAGTCAGACTCTGCCAAGCAGTTCTTGGTGGCAGCAGAGGCTATTGATGACATACCTTTGG
 AATCACGTCCAACAGTGGTGTCTTCCAAGTACCAGCTGGACAAGATGGGGTGGTCTCTTTAAGAAG
 TTTGATGAAGGCCGAACAACCTTTGAGGGTGGATCACCAGGAGAAGCTTCTAGACTTCATCAAGCACA
 ACCAGCTGCCTTTGGTATCGAGTTCCTGAACAGACAGCTCCGAAGATTTTGGAGGTGAGATCAAGAC
 ACACATTTGCTGTTCTGCCAAGAGTGTATCTGACTATGACGGCAAGCTGAGCAGCTTCAAGAGAGCA
 GCCGAGGGCTTCAAGGGCAAGATCTATTTATCTTCATCGATAGCGACCACACTGATAACCAGCGCATA
 TTGAGTTCTTTGGCCTGAAGAAGGAGGAGTGTCCCGCGTGGCGTTATTACCCTAGAGGAAGAGATGAC
 CAAGTACAAACCAGAGTCAGATGAGCTGACGGCTGAGAAAATCACAGAGTTTCCACCGCTTCTTAGAG
 GGCAAGATCAAGCCCCACCTGATGAGCCAGGAAGTGCCTGAAGACTGGGACAAACAGCCGGTAAAAGTAC
 TGGTTGGGGCGAACTTTGAAGAGGTCGCTTTTGTGAGAAAAAGAACGTGTTTGTGAATCTATGCCCC
 TTGGTGTGGTCACTGCAAGCAGCTAGCCCCATTTGGGATAAACTGGGAGAGACATACAAGGATCATGAG
 AATATCATCATTGCTAAGATGGACTCAACAGCCAATGAGGTGGAAGCTGTCAAAGTACATAGCTTTCCCA
 CACTGAAGTTCTTCCAGCAAGTGCAGACAGAACGGTCATTGATTACAATGGCGAGCGGACACTGGACGG
 TTTTAAGAAATCTTGGAGAGTGGTGGCCAGGATGGAGCAGGGGACGATGAGGACCTCGACCTAGAAGAA
 GCTTTAGAGCCAGACATGGAGGAAGACGACGATCAGAAAGCTGTGAAGGATGAAGT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG208187 representing NM_011032
 Red=Cloning site Green=Tags(s)

MLSRALLCLALAWAARVGADALEEEDNVLVLKSNFEEALAAHKYLLVEFYAPWCGHCKALAPEYAKAAA
 KLKAEGSEIRLAKVDATEESDLAQYGVRYPTIKFFKNGDTASPKEYTAGREADDIVNWLKKRTGPAAT
 TLDSTAAAESLVDSSEVTVIGFFKDVESDSAKQFLAAEAIDDIPFGITSNVSGVFSKYQLDKDGVVLFKK
 FDEGRNFEGETKELLDKIKHNQLPLVIEFTEQTAPKIFGGEIKTHILLFLPKSVSDYDGLSSFKRA
 AEGFKGKILFIFIDSHTDNQRILEFFGLKKEECPAVRLITLEEEMTKYKPEDELTAEKITEFCHRFLE
 GKIKPHLMSQVEPEDWDKQPVKVLVGFANFEEVAFDEKKNVFEFYAPWCGHCKQLAPIWDKLGETYKDHE
 NIIIAKMDSTANEVEAVKVSFPTLKFPPASADRTVIDYNGERTLDGFKKFLSEGGQDAGDDEDLLEE
 ALEPDMEEDDDQKAVKDEL

TRTRPLE – GFP Tag – V

Restriction Sites:

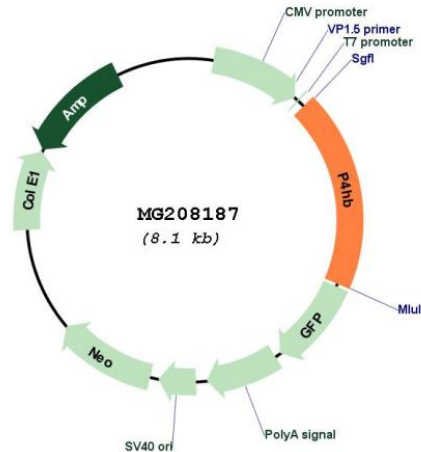
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_011032

ORF Size: 1527 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_011032.1](#)

RefSeq Size: 2538 bp

RefSeq ORF: 1530 bp

Locus ID: 18453

UniProt ID: [P09103](#)

Cytogenetics: 11 84.27 cM

Gene Summary: This multifunctional protein catalyzes the formation, breakage and rearrangement of disulfide bonds. At the cell surface, seems to act as a reductase that cleaves disulfide bonds of proteins attached to the cell. May therefore cause structural modifications of exofacial proteins. Inside the cell, seems to form/rearrange disulfide bonds of nascent proteins. At high concentrations, functions as a chaperone that inhibits aggregation of misfolded proteins. At low concentrations, facilitates aggregation (anti-chaperone activity). May be involved with other chaperones in the structural modification of the TG precursor in hormone biogenesis. Also acts a structural subunit of various enzymes such as prolyl 4-hydroxylase and microsomal triacylglycerol transfer protein MTTP (By similarity). Receptor for LGALS9; the interaction retains P4HB at the cell surface of Th2 T helper cells, increasing disulfide reductase activity at the plasma membrane, altering the plasma membrane redox state and enhancing cell migration (PubMed:21670307).[UniProtKB/Swiss-Prot Function]