

## Product datasheet for **MR208187**

### **P4hb (NM\_011032) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	P4hb (NM_011032) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	P4hb
Synonyms:	ERp59; PDI; Pdia1; Thbp
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR208187 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCTGAGCCGTGCTTTGCTGTGCCTAGCCCTGGCTGGCGGGCTAGGGTGGCGCCGACGCCCTGGAGG  
 AGGAGGACAACGTCTGGTGTGAAGAAGAGCAACTTCGAGGAGGCGCTGGCGGCCACAAGTACCTGCT  
 GGTGGAGTTCTATGCCCGTGGTGTGGCCACTGCAAAGCTCTGGCTCCCGAGTATGCCAAAGCTGCCGCA  
 AAAGTGAAGGCAGAAGGCTCTGAGATTCGACTAGCAAAGGTGGATGCCACAGAAGAGTCTGACCTGGCTC  
 AGCAGTATGGTGTCCGTGGCTACCCACAATCAAGTTCTCAAGAATGGAGACACAGCCTCCCAAAGGA  
 ATATACAGCTGGCAGGGAAGCTGATGACATTGTCAACTGGCTGAAGAAACGCACGGGCCAGCAGCTACA  
 ACCCTGTCTGACTGCAGCTGCAGAGTCTTGGTGGACTCAAGCGAAGTACGGTATCGGTTTCTTCA  
 AGGACGTAGAGTCAAGCTCTGCCAAGCAGTTCTTGGTGGCAGCAGAGGCTATTGATGACATACCTTTGG  
 AATCAGCTCCAACAGTGGTGTGTTCTCCAAGTACCAGCTGGACAAGATGGGGTGGTCTCTTTAAGAAG  
 TTTGATGAAGGCCGCAACAACCTTTGAGGGTGGATCACCAGGAGAAGCTTCTAGACTTCATCAAGCACA  
 ACCAGCTGCCTTTGGTATCGAGTTCAGTGAACAGACAGCTCCGAAGATTTTGGAGGTGAGATCAAGAC  
 ACACATTTGCTGTTCTGCCAAGAGTGTATCTGACTATGACGGCAAGCTGAGCAGCTTCAAGAGAGCA  
 GCCGAGGGCTTCAAGGGCAAGATCTATTTATCTTCATCGATAGCGACCACACTGATAACCAGCGCATA  
 TTGAGTTCTTTGGCTGAAGAAGGAGGAGTGTCCCGCCGTGCGGCTTATTACCCTAGAGGAAGAGATGAC  
 CAAGTACAAACCAGAGTCAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGA  
 GGCAAGATCAAGCCCCACCTGATGAGCCAGGAAGTGCCTGAAGACTGGGACAAACAGCCGGTAAAAGTAC  
 TGGTTGGGGCGAACTTTGAAGAGGTGCTTTTGGTGAAGAAAAGAACGTTTGTGTTGATGCCCC  
 TTGGTGTGGTCACTGCAAGCAGCTAGCCCCATTTGGGATAAACTGGGAGAGACATACAAGGATCATGAG  
 AATATCATCATTGCTAAGATGGACTCAACAGCCAAATGAGGTGGAAGCTGTCAAAGTACATAGCTTTCCCA  
 CACTGAAGTTCTTCCAGCAAGTGCAGACAGAACGGTCAATTGATTACAATGGCGAGCGGACACTGGACGG  
 TTTTAAGAAATCTTGGAGAGTGGTGGCCAGGATGGAGCAGGGGACGATGAGGACCTCGACCTAGAAGAA  
 GCTTTAGAGCCAGACATGGAGGAAGACGACGATCAGAAAGCTGTGAAGGATGAAGT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR208187 protein sequence  
 Red=Cloning site Green=Tags(s)

MLSRALLCLALAWARVGADALEEEDNVLVLLKSNFEEALAAHKYLLVEFYAPWCGHCKALAPEYAKAAA  
 KLKAEGSEIRLAKVDATEESDLAQYGVGRGYPTIKFFKNGDTASPKKEYTAGREADDIVNWLKRTGPAAT  
 TLDATAAASLVDSSEVTVIGFFKDVESDSAKQFLLAEAIDIPFGITSNVGFVSKYQLDKDGVVLFKK  
 FDEGRNNEFEGEITKEKLLDFIKHNQLPLVIEFTEQTAPKIFGGEIKTHILLFLPKSVSDYDGKLSFFKRA  
 AEGFKGKILFIFIDSHTDNQRILEFFGLKKEECPAVRLITLEEEMTKYKPESEDLTAEKITEFCHRFL  
 GKIKPHLMSQVEPEDWDKQPVKLVGANFEEVAFDEKKNVVEFYAPWCGHCKQLAPIWDKLGETYKDHE  
 NIIIAKMDSTANEVEAVKVHSPFTLKFFPASADRTVIDYNGERTLDGFKKFLSSGGQDAGDDEDLLEE  
 ALEPDMEEEDDQKAVKDEL

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-Mlul

Cloning Scheme:



ACCN: NM\_011032

ORF Size: 1530 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

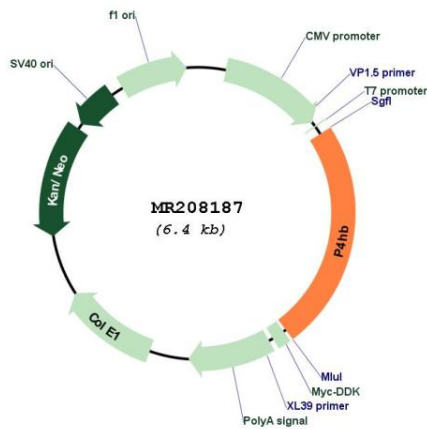
UniProt ID: [P09103](#)

Cytogenetics: 11 84.27 cM

**MW:** 57.1 kDa

**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]

**Product images:**



Circular map for MR208187