

## Product datasheet for **RG203204**

### PSMD2 (NM\_002808) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PSMD2 (NM_002808) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PSMD2
Synonyms:	P97; RPN1; S2; TRAP2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG203204 representing NM\_002808  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGAGGAGGAGGCCGGGACAAGGCGCCGGTGCAGCCCCAGCAGTCTCCAGCGGGCCCCCGCGGCCA  
 CGGACGAGAAGCCGAGCGCAAGGAGCGCGGGATGCCGGGACAAGGACAAAGAACAGGAGCTGTCTGA  
 AGAGGATAAACAGCTTCAAGATGAACTGGAGATGCTCGTGAACGACTAGGGGAGAAGGATACATCCCTG  
 TATCGACCAGCGCTGGAGGAATTGCGAAGGCAGATTTCGTTCTTCTACAACCTCCATGACTTCAGTGCCCA  
 AGCCTCTCAAATTTCTCGTCCACACTATGGCAAAGTGAAGAAATCTATGAGAACATGGCCCTGGGGA  
 GAATAAGCGTTTTGCTGCTGACATCATCCGTTTTGGCCATGACCATGAGTGGGAGCGTGAGTGCCTC  
 AAGTATCGGCTAGTGGGCTCCAGGAGGAATTGGCATCATGGGTCATGAGTATGCAGGCATCTGGCAG  
 GAGAAGTGGCTAAGGAGTGGCAGGAGCTGGATGACGCAGAGAAGTCCAGCGGGAGCCTCTGCTCACTCT  
 GGTGAAGGAAATCGTCCCCTATAACATGGCCACAATGCAGAGCATGAGGCTTGGCAGCTGCTTATGGAA  
 ATTGAGCAGGTGGACATGCTGGAGAAGGACATTGATGAAAATGCATATGCAAAGGTCTGCCTTTATCTCA  
 CCAATTGTGTGAATTACGTGCCTGAGCCTGAGAACTCAGCCCTACTGCGTTGTGCCCTGGGTGTGTTCCG  
 AAAGTTTAGCCGCTTCCCTGAAGCTCTGAGATTGGCATTGATGCTCAATGACATGGAGTTGGTAGAAGAC  
 ATCTTCACCTCCTGCAAGGATGTGGTAGTACAGAAACAGATGGCATTGATGCTAGGCCGGCATGGGGTGT  
 TCCTGGAGCTGAGTGAAGATGTCGAGGAGTATGAGGACCTGACAGAGATCATGTCCAATGTACAGCTCAA  
 CAGCAACTTCTGGCCTTAGCTCGGGAGCTGGACATCATGGAGCCCAAGGTGCCTGATGACATCTACAAA  
 ACCCAGCTAGAGAACAACAGGTTTTGGGGCAGTGGCTCTCAGGTGACTCTGCCCGCATGAACCTGGCCT  
 CCTCTTTTGTGAATGGCTTTGTGAATGCAGCTTTTGGCCAAGACAAGCTGCTAACAGATGATGGCAACA  
 ATGGCTTTACAAGAACAAGGACCACGGAATGTTGAGTGCAGCTGCATCTCTTGGGATGATTCTGCTGTGG  
 GATGTGGATGGTGGCCTACCCAGATTGACAAGTACCTGTACTCCTCTGAGGACTACATTAAGTCAGGAG  
 CTCTTCTGCCTGTGGCATAGTGAACCTCTGGGTCCGGAATGAGTGTGACCCTGCTCTGGCACTGCTCTC  
 AGACTATGTTCTCCACAACAGCAACACCATGAGACTTGGTTCCATCTTTGGGCTAGGCTTGGCTTATGCT  
 GGCTCAAATCGTGAAGATGTCCTAACACTGCTGCTGCCTGTGATGGGAGATTCAAAGTCCAGCATGGAGG  
 TGGCAGGTGTACAGCTTAGCCTGTGGAATGATAGCAGTAGGGTCTGCAATGGAGATGTAACCTCCAC  
 TATCCTCAGACCATCATGGAGAAGTCAAGACTGAGCTCAAGGATACTTATGCTCGTTGGCTTCTCTT  
 GGACTGGGTCTCAACCACCTGGGAAGGGTGGAGCCATCGAGGCAATCCTGGCTGCACTGGAGGTTGTGT  
 CAGAGCCATCCGAGTTTTGCCAACACACTGGTGGATGTGTGTGCATATGCAGGCTCTGGGAATGTGCT  
 GAAGGTGCAGCAGCTGCTCCACATTTGTAGCGAACACTTTGACTCCAAAGAGAAGGAGGAAGACAAGAC  
 AAGAAGGAAAAGAAAGACAAGGACAAGAAGGAAGCCCTGCTGACATGGGAGCACATCAGGGAGTGGCTG  
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 CTTGCTGAGATATGGGGAGCCTACACTCCGGAGGGCTGTACCTTTAGCACTGGCCCTCATCTGTTTCA  
 AATCCACGACTCAACATCCTGGATACCCTAAGCAAATCTCTCATGATGCTGATCCAGAAGTTTCTTATT  
 ACTCCATTTTGGCATGGCATGGTGGGAGTGGTACCAATAATGCCGCTGGCTGCAATGCTGGCCCA  
 GTTAGCTCAATATCATGCCAAGGACCCAAACAACCTTTCATGGTGCCTTGGCACAGGGCCTGACACAT  
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 ATTGTATGGGCTGGTGGCTGCCATGCAGCCCCGAATGCTGGTTACGTTTGTGATGAGGAGCTGCGGCCATTG  
 CCAGTGTCTGTCGTGGGCCAGGAGTGGATGTTGGTGGCCAGGCTGGCAAGCCGAAGACTATCACAG  
 GGTTCAGACGCATAACAACCCAGTGTGTTGGCCACGGGGAACGGGCAGAATTGGCCACTGAGGAGTT  
 TCTTCTGTTACCCCATCTGGAAGGTTTTGTTATCCTTCGGAAGAACCCCAATTATGATCTC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG203204 representing NM\_002808  
 Red=Cloning site Green=Tags(s)

MEEGGRDKAPVQPQQSPAAAPGGTDEKPSGKERRDAGDKDKEQELSEEDKQLQDELEMLVERLGEKDTSL  
 YRPALEELRRQIRSSTTSMTSVPKPLKFLRPHYGKLEIYENMAPGENKRFAADIISVLAMTMSGERECL  
 KYRLVGSQEELASWGHEYVRHLAGEVAKEWQELDDAEKVQREPLTLVKEIVPYNMAHNAEHEACDLLME  
 IEQVDMLEKIDENAYAKVCLYLTSVCVNYVPEPENSALLRCALGVFRKFSRFPEALRLALMLNDMELVED  
 IFTSCKDVVVQKQMAFMLGRHGVFLELSEDVVEEYEDLTEIMSNVQLNSNFLALARELDIMEPKVPDDIYK  
 THLENNRFGGSGSQVDSARMNLASSFVNGFVNAAFQDKLLTDDGNKWL YKNKDHGML SAAASLGMILLW  
 DVDGGLTQIDKYL YSSEDIKSGALLACGIVNSGVRNECDPALALLSDYVLHNSNTMRLGSI FGLGLAYA  
 GSNREDVLTLLL PVMGDSKSSMEVAGVTALACGMIAVGSCNGDVTSTILQTIMEKSETELKDTYARWPLPL  
 GLGLNHLGKGEAIEAILAALEVSEPF RSFANTLVDVCA YAGSGNVLKVQQLLHCSEHFDSKEEEDKD  
 KKEKKDKKKEAPADMGAHQGVAVL GIALIAMGEEIGAEMALRTFGHLLRYGEPTLRRAVPLALALISVS  
 NPRLNILDLSKFSHDADPEVSYYSIFAMGMVSGTNNARLAAMLRLQLAQYHAKDPNNLFMVRLAQLGTH  
 LGKGTLLCPYHSDRQLMSQVAVAGLLTVLVSFLDVRNIILGKSHYVLYGLVAAMQPRMLVTFDEELRPL  
 PVSVRVQAVDVVQAGPKTITGFQTHTPVLLAHGERAE LATEEFLPVTPILEGFVILRKNPNYDL

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

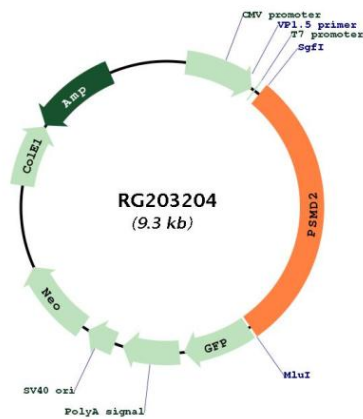


ACCN:	NM_002808
ORF Size:	2724 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a>
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:	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
RefSeq:	<a href="#">NM_002808.2</a>
RefSeq Size:	2990 bp
RefSeq ORF:	2727 bp
Locus ID:	5708
UniProt ID:	<a href="#">Q13200</a>
Cytogenetics:	3q27.1
Domains:	PC_rep
Protein Families:	Druggable Genome
Protein Pathways:	Proteasome

**Gene Summary:**

The 26S proteasome is a multicatalytic proteinase complex with a highly ordered structure composed of 2 complexes, a 20S core and a 19S regulator. The 20S core is composed of 4 rings of 28 non-identical subunits; 2 rings are composed of 7 alpha subunits and 2 rings are composed of 7 beta subunits. The 19S regulator is composed of a base, which contains 6 ATPase subunits and 2 non-ATPase subunits, and a lid, which contains up to 10 non-ATPase subunits. Proteasomes are distributed throughout eukaryotic cells at a high concentration and cleave peptides in an ATP/ubiquitin-dependent process in a non-lysosomal pathway. An essential function of a modified proteasome, the immunoproteasome, is the processing of class I MHC peptides. This gene encodes one of the non-ATPase subunits of the 19S regulator lid. In addition to participation in proteasome function, this subunit may also participate in the TNF signalling pathway since it interacts with the tumor necrosis factor type 1 receptor. A pseudogene has been identified on chromosome 1. Alternative splicing results in multiple transcript variants of this gene. [provided by RefSeq, Jul 2013]

**Product images:**



Circular map for RG203204