

Product datasheet for **MG204455**

Pim1 (BC042885) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pim1 (BC042885) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Pim1
Synonyms:	Pim-1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG204455 representing BC042885 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCTCCTGTCCAAGATCAACTCCCTGGCCACCTGCGCGCCGCGCCCTGCAACGACCTGCACGCCACCA
AGCTGGCGCCGGGCAAAGAGAAGGAGCCCTGGAGTCGCAGTACCAGGTGGGCCCGCTGTTGGGCAGCGG
TGGCTTCGGCTCGGTCTACTCTGGCATCCGCGTCGCCACAACCTGCCGGTGGCCATTAAGCACGTGGAG
AAGGACCGGATTCGGATTGGGGAGAAGTGCCTAATGGCACCCGAGTGCCCATGGAAGTGGTCTCTGTTGA
AGAAGGTGAGCTCGGACTTCTCGGGCGTATTAGACTTCTGGACTGGTTCGAGAGGCCCGATAGTTTCGT
GCTGATCCTGGAGAGGCCGAACCGGTGCAAGACCTCTTCGACTTATCACCGAACGAGGAGCCCTACAG
GAGGACCTGGCCCGAGGATTCCTCTGGCAGGTGCTGGAGGCCGTGCGGCATTGCCACAACCTGCGGGGTTT
TCCACCGCGACATCAAGGACGAGAATCTTAATCGACCTGAGCCGCGCGGAAATCAAACCTCATCGACTT
CGGGTCGGGGGCGCTGCTCAAGGACACAGTCTACACGGACTTTGATGGGACCCGAGTGTACAGTCTCCCA
GAGTGGATTCGCTACCATCGCTACCACGGCAGGTGCGCAGCTGTCTGGTCCCTTGGGATCCTGCTCTATG
ACATGGTCTGCGGAGATATTCGGTTTGAGCAGCATGAAGAGATCATCAAGGGCCAAGTGTCTTCAGGCA
AACTGTCTTTCAGAGTGTGAGCACCTTATTAATGGTGCCTGTCCCTGAGACCATCAGATCGGCCCTCC
TTTGAAGAAATCCGGAACCATCCATGGATGCAGGGTGACCTCTGCCCCAGGCAGCTTCTGAGATCCATC
TGCACAGTCTGTACCGGGTCCAGCAAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >MG204455 representing BC042885
 Red=Cloning site Green=Tags(s)

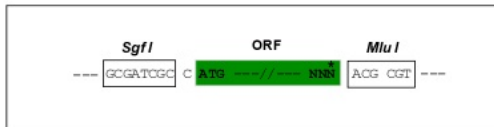
MLLSKINSLAHLRAAPCNDLHATKLAGKKEPLESQYQVGPLLGSGGFGSVYSGIRVADNLPVAIKHVE
 KDRISDWGELPNGTRVPMEVLLKKVSSDFSGVIRLLDWFERPDSFVLI LERPEPVQDLDFDITERGALQ
 EDLARGFFWQVLEAVRHCHNCGVLHRDIKDENILIDL SRGEIKLIDFGSGALLKDTVYTFDGT RVYSPP
 EWIRYHRHYHGRSAAVWSLGILLYDMVCGDIPFEHDEEIIKQVFFRQTVSSECQHLIKWCLSLRPSDRPS
 FEEIRNHPWMQGDLLPQAASEIHLHSLSPGSSK

TRTRPLE - GFP Tag - V

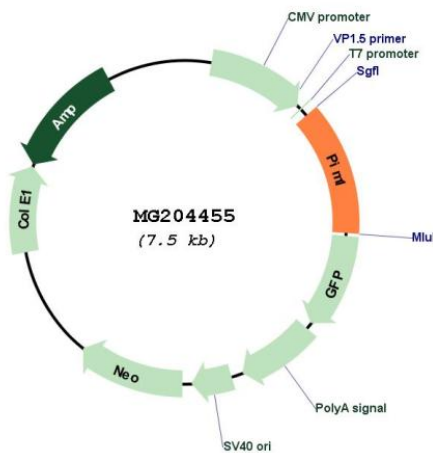
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: BC042885

ORF Size: 941 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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: [BC042885](#), [AAH42885](#)

RefSeq Size: 2032 bp

RefSeq ORF: 941 bp

Locus ID: 18712

Cytogenetics: 17 15.38 cM

Gene Summary:

Proto-oncogene with serine/threonine kinase activity involved in cell survival and cell proliferation and thus providing a selective advantage in tumorigenesis. Exerts its oncogenic activity through: the regulation of MYC transcriptional activity, the regulation of cell cycle progression and by phosphorylation and inhibition of proapoptotic proteins (BAD, MAP3K5, FOXO3). Phosphorylation of MYC leads to an increase of MYC protein stability and thereby an increase of transcriptional activity. The stabilization of MYC exerted by PIM1 might explain partly the strong synergism between these two oncogenes in tumorigenesis. Mediates survival signaling through phosphorylation of BAD, which induces release of the anti-apoptotic protein Bcl-X(L)/BCL2L1. Phosphorylation of MAP3K5, an other proapoptotic protein, by PIM1, significantly decreases MAP3K5 kinase activity and inhibits MAP3K5-mediated phosphorylation of JNK and JNK/p38MAPK subsequently reducing caspase-3 activation and cell apoptosis. Stimulates cell cycle progression at the G1-S and G2-M transitions by phosphorylation of CDC25A and CDC25C. Phosphorylation of CDKN1A, a regulator of cell cycle progression at G1, results in the relocation of CDKN1A to the cytoplasm and enhanced CDKN1A protein stability. Promote cell cycle progression and tumorigenesis by down-regulating expression of a regulator of cell cycle progression, CDKN1B, at both transcriptional and post-translational levels. Phosphorylation of CDKN1B, induces 14-3-3 binding, nuclear export and proteasome-dependent degradation. May affect the structure or silencing of chromatin by phosphorylating HP1 gamma/CBX3. Acts also as a regulator of homing and migration of bone marrow cells involving functional interaction with the CXCL12-CXCR4 signaling axis (By similarity).[UniProtKB/Swiss-Prot Function]