

Product datasheet for **MG227348**

Itgb3 (NM_016780) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Itgb3 (NM_016780) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Itgb3
Synonyms:	CD61; GP3A; INGRB3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG227348 representing NM_016780
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCGAGCGCAGTGGCCGGGACAACTCTGGGCCGCTCTGCTGGCGCTGGGGCGCTGGCGGGCGTTGTTG
 TTGGAGAGTCCAACATCTGTACACACGAGGCGTGAACCTCTGCCAGCAGTGTCTGGCTGTGAGTCTGT
 GTGTGCCTGGTGCTCAGATGAGACTTTGTCTCAGGGCTCACCCCGATGTAACTGAAGGAGAACCTGCTG
 AAGGACAATTGTCTCCAGAGTCTATTGAGTCCAGTCACTGAGGCCAGATCTGGAGGCTAGGCCAC
 TCAGCAGCAAGGGCTCTGGAAGCAGCGCCAGATCACTCAAGTCAGCCCTCAGAGGATTGCCCTTCGACT
 ACGGCCAGATGATTGAAGATCTTCTCACTTCAAGTGCAGGAGTGGAGGATTACCCCGTGGACATCTAC
 TACTTGATGGACCTGTCTTCTCCATGAAGGATGATCTGTCCAGCATCCAGACCTGGGTACCAAGTTGG
 CCTCTCAGATGCGCAAGCTTACTAGCAACCTTCGGATTGGCTTTGGGGCCTTCGTGGACAAGCCTGTATC
 GCCGTACATGTACATCTCCACACAGGCAATCAAAAACCCCTGTTACAATATGAAGAATGCCTGCTTG
 CCCATGTTTGGCTACAAACACGTCTGACGCTAACCGACCAGGTGTCCCGCTCAATGAAGAAGTGAAGA
 AACAGAGCGTGTCCCGTAATCGAGATGCCCCAGAGGGCGCTTTGACGCCATCATGCAGGCTACAGTATG
 TGATGAAAAAATTGGCTGGAGGAATGACGCATCCCATTTGCTAGTGTTTACCACGGATGCCAAGACCCAT
 ATTGCCCTGGATGGAAGGCTGGCAGGCATTGTCCTGCCCAATGATGGGCACTGTACATTGGCACCAGCA
 ACCACTACTCTGCCTCCACTACCATGGACTACCCATCTCTGGGGCTGATGACTGAGAAATATCCAGAA
 AAACATTAACCTGATCTTTGAGTACTGAAAAATGTCGTGAGCCTTTACCAGAAATATAGTGAGCTCATT
 CCTGGGACCACAGTGGGAGTCTGTCTGATGACTCAAGCAACCTCCTCCAGCTCATTGTTGATGCTTACG
 GGAAAAATCCGCTCTAAAGTGGAGCTGGAAGTACGTGACCTGCCGGAAGAACTGTCACTGTCTTCAATGC
 CACCTGCCTCAACAACGAGGTTATCCCGGGCCTCAAGTCTTGTGTGGGCTCAAGATTGGAGACAGGGTG
 AGCTTTAGTATCGAGGCAAGGTGCGTGCTGCCCCAGGAGAAGGAGCAGTCTTCACTATCAAGCCTG
 TGGGCTTTAAGGACAGCCTCACCGTCCAGGTGACCTTCGACTGTGACTGTGCCTGCCAGGCTTTGCCCA
 GCCTTCCAGCCCACGCTGCAACAATGGGAACGGGACTTTTGTAGTGTGGGTGTGCCGCTGTGACCAGGGC
 TGGCTGGGGTCCATGTGTGAGTCTCTGAGGAGGATTACCGACCTCTCAGCAGGAAGAGTGCAGCCCCA
 AGGAGGGCCAGCCATCTGCAGCCAGCGGGGAGAGTGCCTCTGTGGCCAGTGTGTCTGCCATAGCAGCGA
 CTTCCGCAAGATCACTGGCAAGTACTGTGAGTGCATGACTTCTCCTGCGTCCGCTACAAAGGGGAGATG
 TGTCCGCCCATGGGCAATGTAAGTGTGGGACTGCGTGTGTGACTCGGACTGGACTGGCTACTACTGCA
 ACTGTACTACACGCACTGACACCTGCATGTCCACCAATGGGCTGCTGTGCAGCGCCGGGCAACTGCGA
 GTGCGGCAGCTGTGTGTGCGTCCAGCCAGGCTCCTATGGAGACACCTGTGAGAAGTGCCCCACCTGCCCA
 GATGCCTGCTCCTTAAGAAGGAGTGTGTGGAGTGAAGAAGTTCAACCGGGGAACGCTCCATGAAGAAA
 ACACCTGCAGCCGCTACTGCCGGATGACATCGAGCAGGTGAAAGAGCTGACGGAATACTGGCAAAAACGC
 CGTGAATTGTACCTACAAGAACGAGGATGACTGTGTGCTCAGATTCCAGTACTACGAAGACACCAGTGGG
 AGGGCAGTCTCTATGTGGTGAAGAGCCTGAGTGTCCCAAGGGTCTGATATCCTGGTGGTCTGCTGT
 CAGTGTGGGGCCATCCTGCTCATTGGCTTGTACTCTGCTCATCTGGAAGCTACTCATCACTATCCA
 TGACCCGAAGGAATTTGCTAAATTTGAGGAAGAACGAGCCAGGCAAGTGGGACACAGCAAAACAACCCG
 CTGTATAAAGAGGCCACCTCCACCTTACCAATATCACCTACCGGGGACT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >MG227348 representing NM_016780
Red=Cloning site Green=Tags(s)

MRAQWPGQLWAALLALGALAGVVVGESNICTTRGVNSCQQCLAVSPVCAWCSDETL SQGSPRCNLKENLL
KDNCAPESEIEFPVSEAQILEARPLSSKSGSSAQITQVSPQRIALRLRPDDSKIFSLQVRQVEDYPVDIY
YLMDLFSMKDDLSSIQTLGTLASQMRKLT SNLRIGFGAFVDKPVSPYMYISPPQA IKNPCYNMKNACL
PMFGYKHVLTLDQVSRFN EEVKKQSVSRNRDAPEGGFDAIMQATVCDEKIGWRNDASHLLVFTTDAKTH
IALDGRLAGIVLPNDGHCHIGTDNHYSASTTMDYPSLGLMTEKLSQKNINLI FAVTENVVSLYQNYSELI
PGTTVGVLSDSSNVLQLIVDAYGKIRSKVELEVRDLPEELSLSFNATCLNNEVIPGLKSCVGLKIGDTV
SFSIEAKVRGCPQEKEQSFTIKPVGFKDSLTVQVTFDCDCACQAFAPSSPRCNGNGTFECGVCRCDQG
WLGSMCECSEEDYRPSQQEECSPEKGPICSRGECLCGQCVCHSSDFGKITGKYCEDDFSCVRYK GEM
CSGHGQCNCGDCVDSWTGYCNCCTTRTDTCMSTNGLLCSGRGNCECGSCVCVQPGSYGDTCEKCPTCP
DACSFKKECVECKKFNRGTLHEENTCSRYCRDDIEQVKELTDTGKNAVNCTYKNEDDCVVRFY YEDTSG
RAVLYVVEEPECPKGPDILVLLSVMGAILLIGLATLLIWKLLITIHDRKEFAKFEEERARAKWDTANNP
LYKEATSTFTNITYRGT

TRTRPLE - GFP Tag - V

Chromatograms: https://cdn.origene.com/chromatograms/ja2263_f03.zip

Restriction Sites: Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shutting:



EcoRI
BamHI KpnI
RBS
Kozac Consensus
SgfI
AscI

CTATAGGGGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGCCAGATCT

HindIII
NheI RsrII
MluI
NotI
XhoI
GFP Tag

CAAGCTTAAGTACTAGCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC ---

T R T R P L E
M E S D - - -

PmeI
FseI

--- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT

- - E E R V Stop

ACCN: NM_016780
 ORF Size: 2361 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: [NM_016780.2](#), [NP_058060.2](#)

RefSeq Size: 5795 bp

RefSeq ORF: 2364 bp

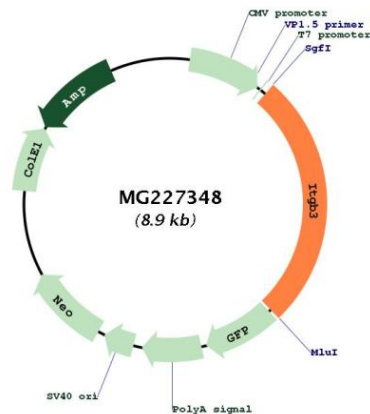
Locus ID: 16416

UniProt ID: [O54890](#)

Cytogenetics: 11 67.84 cM

Gene Summary:

Integrin alpha-V/beta-3 (ITGAV:ITGB3) is a receptor for cytotactin, fibronectin, laminin, matrix metalloproteinase-2, osteopontin, osteomodulin, prothrombin, thrombospondin, vitronectin and von Willebrand factor. Integrin alpha-IIb/beta-3 (ITGA2B:ITGB3) is a receptor for fibronectin, fibrinogen, plasminogen, prothrombin, thrombospondin and vitronectin. Integrins alpha-IIb/beta-3 and alpha-V/beta-3 recognize the sequence R-G-D in a wide array of ligands. Integrin alpha-IIb/beta-3 recognizes the sequence H-H-L-G-G-G-A-K-Q-A-G-D-V in fibrinogen gamma chain. Following activation integrin alpha-IIb/beta-3 brings about platelet/platelet interaction through binding of soluble fibrinogen. This step leads to rapid platelet aggregation which physically plugs ruptured endothelial surfaces. Fibrinogen binding enhances SELP expression in activated platelets (PubMed:19332769). ITGAV:ITGB3 binds to fractalkine (CX3CL1) and acts as its coreceptor in CX3CR1-dependent fractalkine signaling. ITGAV:ITGB3 binds to NRG1 (via EGF domain) and this binding is essential for NRG1-ERBB signaling. ITGAV:ITGB3 binds to FGF1 and this binding is essential for FGF1 signaling. ITGAV:ITGB3 binds to FGF2 and this binding is essential for FGF2 signaling (By similarity). ITGAV:ITGB3 binds to IGF1 and this binding is essential for IGF1 signaling (By similarity). ITGAV:ITGB3 binds to IGF2 and this binding is essential for IGF2 signaling (By similarity). ITGAV:ITGB3 binds to IL1B and this binding is essential for IL1B signaling (By similarity). ITGAV:ITGB3 binds to PLA2G2A via a site (site 2) which is distinct from the classical ligand-binding site (site 1) and this induces integrin conformational changes and enhanced ligand binding to site 1 (By similarity). ITGAV:ITGB3 acts as a receptor for fibrillin-1 (FBN1) and mediates R-G-D-dependent cell adhesion to FBN1 (By similarity). In brain, plays a role in synaptic transmission and plasticity (PubMed:29038237, PubMed:18549786). Involved in the regulation of the serotonin neurotransmission, is required to localize to specific compartments within the synapse the serotonin receptor SLC6A4 and for an appropriate reuptake of serotonin (PubMed:29038237). Controls excitatory synaptic strength by regulating GRIA2-containing AMPAR endocytosis, which affects AMPAR abundance and composition (PubMed:18549786).[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for MG227348