

## Product datasheet for **MC217552**

### **Acvr2b (NM\_007397) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Acvr2b (NM_007397) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Acvr2b
Synonyms:	4930516B21Rik; ActRIIB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**Fully Sequenced ORF:** >MC217552 representing NM\_007397  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGACGGCGCCCTGGGCGCCCTCGCCCTTCTCTGGGATCGCTGTGCGCCGGTTCGGGCGAGGGGAGG  
 CTGAGACTCGGGAGTGCATCTACTACAACGCCAACTGGGAGCTGGAGCGACCAACCAGAGCGCCCTGGA  
 GCGCTGCGAGGGGAACAGGACAAGCGGCTGCACTGCTACGCCTCGTGGCGCAACAGCTCGGGCACCATC  
 GAGCTGGTGAAGAAGGGCTGCTGGCTAGATGACTTCAATTGCTACGACAGGCAGGAGTGTGTGGCCACCG  
 AGGAGAACCCCCAGGTGACTTCTGCTGCTGCGAAGGCAACTTCTGCAACGAGCGCTTACCCCACTTGCC  
 GGAGCTGGGGGCCAGAAGTACGTACGAGCCACCCCGACAGCCCCACCCCTGCTCACGGTGTGGCC  
 TACTCGTGTGCCATTGGAGGCTCTCTCATCGTCTGCTGGCCTTCTGGATGTATCGTCATCGGA  
 AGCCTCCCTACGGCCATGTGGACATCCATGAGGTGAGACAGTCCAGCGTTGGCAGGGAGAAGGGACGG  
 CTGTGCGGACTCCTTTAAGCCCTTGCCCTTCCAGGACCCGGGCGCTCCGCCCCATCCCCCTGGTGGGC  
 CTGAAGCCACTACAGCTGCTGGAGATCAAGGCTCGGGGCCGCTTTGGCTGCGTTTGGAAAGCTCAGCTCA  
 TGAACGACTTTGTGGCTGTGAAGATCTCCCACTTCAGGACAAGCAGTCGTGGCAGAGTGAACGGGAAAT  
 CTTCAGCACACCCGGCATGAAGCACGAAAACCTGTTGTCAGTTCATTGCTGCCGAGAAACGAGGCTCCAAC  
 CTGGAGGTGGAGCTGTGGCTCATCACAGCCTTCCACGACAAGGGCTCCCTCACGGATTACCTCAAGGGGA  
 ACATCATCACGTGGAACGAACTGTGCCAGTGGCGGAGACGATGTCACGAGGCCTCTCATACCTGCATGA  
 GGATGTCCCGTGGTGTGCTGGTGAAGGGCCACAAGCCTTCTATTGCCACAGGGACTTCAAAGCAAGAAT  
 GTACTGCTGAAGAGCGACCTCACCGGGTGTGGCTGACTTCGGCCTGGCTGTTCCGGTTTGAAGCAGGGA  
 AGCCTCCTGGGGATACCCATGGACAGTTGGCACCAGACGATACATGGCCCTGAGGTGCTGGAAGGAGC  
 CATCAACTTCCAGAGAGACGCCTTCCCTGCGTATCGACATGTACGCCATGGGCTGGTGTGTGGGAGCTC  
 GTCTCTCGGTGCAAGGCTGCAGACGGCCGTGTCGATGAGTACATGCTGCCCTTCGAGGAGGAGATTGGCC  
 AGCACCCCTTCGCTGGAGGAGCTTCAGGAGGTGGTTGTCCACAAGAAGATGAGGCCACGATTAAGGATCA  
 CTGGCTGAAACACCCGGGCTGGCCAGCTCTGCGTGACCATCGAGGAGTGTGGGACCATGATGCAGAG  
 GCTCGCCTTTCTGCAGGCTGTGTAGAAGAGCGGGTATCCCTGATCAGGAGGTGGTCAACGGCACTACCT  
 CGGACTGTCTCGTCTCTGGTGACCTCCGTCACCAATGTGGACCTGCTCCCTAAAGAGTCCAGCATCTA  
 A

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja1892\\_b09.zip](https://cdn.origene.com/chromatograms/ja1892_b09.zip)

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_007397

**Insert Size:** 1611 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](mailto: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](#)

**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\\_007397.2](#), [NP\\_031423.1](#)

**RefSeq Size:** 1710 bp

**RefSeq ORF:** 1611 bp

**Locus ID:** 11481

**UniProt ID:** [P27040](#)

**Cytogenetics:** 9 F3

**Gene Summary:**

Transmembrane serine/threonine kinase activin type-2 receptor forming an activin receptor complex with activin type-1 serine/threonine kinase receptors (ACVR1, ACVR1B or ACVR1c). Transduces the activin signal from the cell surface to the cytoplasm and is thus regulating many physiological and pathological processes including neuronal differentiation and neuronal survival, hair follicle development and cycling, FSH production by the pituitary gland, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. Activin is also thought to have a paracrine or autocrine role in follicular development in the ovary. Within the receptor complex, the type-2 receptors act as a primary activin receptors (binds activin-A/INHBA, activin-B/INHBB as well as inhibin-A/INHA-INHBA). The type-1 receptors like ACVR1B act as downstream transducers of activin signals. Activin binds to type-2 receptor at the plasma membrane and activates its serine-threonine kinase. The activated receptor type-2 then phosphorylates and activates the type-1 receptor. Once activated, the type-1 receptor binds and phosphorylates the SMAD proteins SMAD2 and SMAD3, on serine residues of the C-terminal tail. Soon after their association with the activin receptor and subsequent phosphorylation, SMAD2 and SMAD3 are released into the cytoplasm where they interact with the common partner SMAD4. This SMAD complex translocates into the nucleus where it mediates activin-induced transcription. Inhibitory SMAD7, which is recruited to ACVR1B through FKBP1A, can prevent the association of SMAD2 and SMAD3 with the activin receptor complex, thereby blocking the activin signal. Activin signal transduction is also antagonized by the binding to the receptor of inhibin-B via the IGSF1 inhibin coreceptor (By similarity).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1). Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.