

Product datasheet for **SC119434**

Activin Receptor Type IA (ACVR1) (NM_001105) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Activin Receptor Type IA (ACVR1) (NM_001105) Human Untagged Clone
Tag:	Tag Free
Symbol:	Activin Receptor Type IA
Synonyms:	ACTRI; ACVR1A; ACVRLK2; ALK2; FOP; SKR1; TSRI
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene ORF sequence for NM_001105 edited
 ATGGTAGATGGAGTGATGATTCTTCTCTGTGCTTATCATGATTGCTCTCCCCTCCCCTAGT
 ATGGAAGATGAGAAGCCCAAGGTCAACCCCAAACCTACATGTGTGTGTGAAGGTCTC
 TCCTGCGTAATGAGACCACTGTGAAGCCAGCAGTGCTTTTCCCTCACTGAGCATCAAC
 GATGGCTTCCACGTCTACCAGAAAGGCTGCTTCCAGGTTTATGAGCAGGGAAAGTGACC
 TGTAAGACCCCGCTCCCCTGGCCAAGCTGTGGAGTGCTGCCAAGGGGACTGGTGAAC
 AGGAACATCACGGCCAGCTGCCACTAAAGGAAAATCCTTCCCTGGAACACAGAATTTT
 CACTTGGAGTTGGCCTCATTATTCTCTGTAGTGTTCGAGTATGTCTTTTAGCTGC
 CTGCTGGGAGTTGCTCTCCGAAAATTTAAAGGCGCAACCAAGAAGCGCTCAATCCCGA
 GACGTGGAGTATGGCACTATCGAAGGGCTCATCACCACCAATGTTGGAGACAGCACTTTA
 GCAGATTTATTGGATCATTTCGTGTACATCAGGAAGTGGCTCTGGTCTTCTTTTCTGGTA
 CAAAGAACAGTGGCTCGCCAGATTACACTGTTGGAGTGTGTGGGAAAGGCAGGTATGGT
 GAGGTGTGGAGGGCAGCTGGCAAGGGGAAAATGTTGCCGTGAAGATCTTCTCCTCCCCT
 GATGAGAAGTCATGGTTCAGGGAACCGAATTGTACAACACTGTGATGCTGAGGCATGAA
 AATATCTTAGGTTTCATTGCTTCAGACATGACATCAAGACACTCCAGTACCCAGCTGTGG
 TTAATTACACATTATCATGAAATGGGATCGTTGTACGACTATCTTACGCTTACTACTCTG
 GATACAGTTAGCTGCCTTCGAATAGTGTGTCCATAGCTAGTGGTCTTGCACATTTGCAC
 ATAGAGATATTTGGGACCAAGGGAAACCAGCCATTGCCATCGAGATTTAAAGAGCAAA
 AATATTTCTGGTTAAGAAGAATGGACAGTGTGCATAGCAGATTTGGCCCTGGCAGTCATG
 CATTCCCAGAGCACCAATCAGCTTGTGATGTGGGAACAATCCCGTGTGGGCACCAAGCGC
 TACATGGCCCCGAAGTTCTAGATGAAACCATCCAGGTGGATTGTTTCGATTCTTATAAA
 AGGGTCGATATTTGGCCTTTGGACTTGTGTTTGTGGGAAGTGGCCAGGCGGATGGTGAAC
 AATGGTATAGTGGAGGATTACAAGCCACCGTTCTACGATGTGGTCCCAATGACCCAAGT
 TTTGAAGATATGAGGAAGGTAGTCTGTGTGGATCAACAAAGGCCAAACATACCCAACAGA
 TGGTTCTCAGACCCGACATTAACCTCTCTGGCCAAGCTAATGAAAGAATGCTGGTATCAA
 AATCCATCGCAAGACTCACAGCACTGCGTATCAAAAAGACTTTGACCAAAATTGATAAT
 TCCCTCGACAAAATGAAAAGTACTGTTGA



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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_001105 unedited
 NGTAACGTCGAAATTTGTATACGACTCATATAGGCGGCCGCGNAATTCGCACGAGGGCGT
 GGAGCGGGGGTCTCAGCCTGGNACATTGGTAAGCGTCACACTGCCAAAGTGAGAGCTGCT
 GGAGAACTCATAATCCCAGGAACGCCTTCTACTCTCCGAGTACCCAGTGACCAGAGT
 GAGAGAAGCTCTGAACGAGGGCACGCGGCTTGAAGGACTGTGGGCAGATGTGACCAAGAG
 CCTGCATTAAGTTGTACAATGGTAGATGGAGTGATGATTCTTCTGTGCTTATCATGATT
 GCTCTCCCCTCCCCTAGTATGGAAGATGAGAAGCCCAAGGTCAACCCCAAACCTACATG
 TGTGTGTGTAAGGTCTCTCCTGCGTAATGAGGACCAGTGTGAAGGCCAGCAGTGCTTT
 TCCTCACTGAGCATCAACGATGGCTTCCACGTCTACCAGAAAGGCTGCTTCCAGGTTTAT
 GAGCAGGGAAAGATGACCTGTAAGACCCCGCCGCTCCCCTGGCAAAGCTGTGGAGTGTGC
 CAAGGGGACTGGTGAACAGGAACATCACGGCCAGCTGCCACTAAAGGAAAATCCTTC
 CCTGGAACACAGAATTTCCACTTGGAGTTGGCCTCATTATTCTCTGTAGTGTTCGCA
 GTATGTCTTTTAGCCTGCCTGCTGGGAGTTGCTCTCCGAAAATTTAAAAGGCGCAACCAA
 GAACGCCTCAATCCCGAGACGTGGAGTATGGCACTATCGAAGGGCTCATCACCACCAAT
 GGTGGAGACAGCACTTTAGCAGATTTATTGGGGATCATTGCGTACATCAGGGAGTGGC
 TCTGGTCTTCTTTCTGGTACAAAGAACAGTGGCTCGCCAGATTACCTGTTGGGN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_001105 unedited
 CGGCCGCAATCTANAGTCGAGTTTTTTTTTTTTTTTTTTTGGACTTGAAACAGTTTTATTTAA
 TTTATACAAATACTACTAAATACAAAAAGTAGATTAACAAAAATAGTATTTTTTTTTTC
 TGGCAGAGTTTAAATGCACGTAATGGATAATTCTGAAGAAAATGCATTTTCCCCGTAGCG
 TTCAGGACTAAAATCTACTGAAATCTTTGCTTCTAAATCAGTAATATATTCGGTGGTGT
 CACGTGGGTAATGGCTAAATACGTTCTGCATATGAACTGAAAAAAGTTACAGTCTACAC
 ACATACAAATGTGAAGCACTTAAAATGTGATTTTAACTGATAATAAAAGAAAATGTCCAT
 TTTAGAGTATAGTATTAACAACTTTCTGTAATAAAATCATAAGACCACATAAAAAATAAG
 CTTTAACATATGCACAAAGCAGTTTTGTAAAACTACTAAGTGCACAAGTAATAAATAAT
 TTGCAAAGTTGTGTATAAAACAATTCCTAATGTTTCGGCATTATTGTAAACATCAGCACATG
 TGTAATAATGCAGCAAAGTCTGACATTACATTTTGTGTTTGGCAAATTTGAATTCCTATTATC
 CAAAGACAGACCAGTGGAGTACGCAGCCAACATTTTGGCAAGTTGGGTCTTTAAAATTA
 GAGTAACAGTGAAGTAGGAATGCAAAGAATTCCTAGTGCNATANAGAAGAGAGCACAGG
 CCATATTGCTGATTTAAAATCACCACCTCCTTTGAGTTNCCGTGGNGAGTGTCTAGGAGA
 CTTGTGAAAGCTATGCAANGCCACTGACTTAATGCCAGATCTTTTTAGATTTCTCTGT
 NGTCTCCAGTCCCTACCCTTGACAGTGTCTGTTTACATTATCTCTGCATGGTGACAGT
 TCGGAAAGGCCANTCCAGTCATCGACGAGTTTAGGTGTTGATGCTCCACACATGCTG
 GTCNACGTTTGTGTCAAACGCATT

Restriction Sites:

NotI-NotI

ACCN:

NM_001105

Insert Size:

3000 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](#)

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_001105.2](#), [NP_001096.1](#)

RefSeq Size: 2952 bp

RefSeq ORF: 1530 bp

Locus ID: 90

UniProt ID: [Q04771](#)

Cytogenetics: 2q24.1

Domains: Activin_recp, pkinase, TyrKc, S_TKc, GS

Protein Families: Druggable Genome, ES Cell Differentiation/IPS, Protein Kinase, Transmembrane

Protein Pathways: Cytokine-cytokine receptor interaction, TGF-beta signaling pathway

Gene Summary:

Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I (I and IB) and two type II (II and IIB) receptors. These receptors are all transmembrane proteins, composed of a ligand-binding extracellular domain with cysteine-rich region, a transmembrane domain, and a cytoplasmic domain with predicted serine/threonine specificity. Type I receptors are essential for signaling; and type II receptors are required for binding ligands and for expression of type I receptors. Type I and II receptors form a stable complex after ligand binding, resulting in phosphorylation of type I receptors by type II receptors. This gene encodes activin A type I receptor which signals a particular transcriptional response in concert with activin type II receptors. Mutations in this gene are associated with fibrodysplasia ossificans progressive. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) is the longer transcript. Both variants 1 and 2 encode the same protein.