

Product datasheet for **RC402551**

Activin Receptor Type IA (ACVR1) (NM_001105) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	Activin Receptor Type IA (ACVR1) (NM_001105) Human Mutant ORF Clone
Mutation Description:	R206H
Affected Codon#:	206
Affected NT#:	617
Nucleotide Mutation:	ACVR1 Mutant (R206H), Myc-DDK-tagged ORF clone of Homo sapiens activin A receptor, type I (ACVR1), transcript variant 1 as transfection-ready DNA
Effect:	Fibrodysplasia ossificans progressiva
Symbol:	Activin Receptor Type IA
Synonyms:	ACTRI; ACVR1A; ACVRLK2; ALK2; FOP; SKR1; TSRI
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_001105
ORF Size:	1527 bp
Restriction Sites:	Sgfl-MluI



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ORF Nucleotide Sequence:

>RC402551 representing NM_001105
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGTAGATGGAGTGATGATTCTTCTGTGCTTATCATGATTGCTCTCCCTCCCCTAGTATGGAAGATG
 AGAAGCCAAGGTCAACCCAACTCTACATGTGTGTGTGAAGGTCTCTCCTGCGGTAAATGAGGACCA
 CTGTGAAGGCCAGCAGTGCTTTTCTCACTGAGCATCAACGATGGCTTCCACGTCTACCGAAAGGCTGC
 TTCCAGGTTTATGAGCAGGAAAGATGACCTGTAAGACCCCGCGTCCCCTGGCCAAGCCGTGGAGTGCT
 GCCAAGGGGACTGGTGTAAACAGGAACATCACGGCCAGCTGCCACTAAAGGAAAATCCTTCCCTGGAAC
 ACAGAATTTCCACTTGGAGGTTGGCCTCATTATTCTCTGTAGTGTTCGCAGTATGCTTTTAGCCTGC
 CTGCTGGGAGTTGCTCTCGAAAATTTAAAGGCGCAACCAAGAACGCCTCAATCCCGAGACGTGGAGT
 ATGGCACTATCGAAGGGCTCATCACCACCAATGTTGGAGACAGCACTTTAGCAGATTTATTGGATCATT
 GTGTACATCAGGAAGTGGCTCTGGTCTTCTTTCTGGTACAAAGAACAGTGGCTCACCAGATTACTG
 TTGGAGTGTGTGGGAAAGGCAGGTATGGTGGGTGTGGAGGGGCACTGGCAAGGGGAGAAATGTTGCCG
 TGAAGATCTTCTCCTCCCGTGTGAGAAGTCATGGTTCAGGAAACGGAATTGTACAACACTGTGATGCT
 GAGGCATGAAAATATCTTAGGTTTCATTGCTTCAGACATGACATCAAGACACTCCAGTACCCAGCTGTGG
 TTAATTACACATTATCATGAAATGGGATCGTTGTACGACTATCTTCAGCTTACTACTCTGGATACAGTTA
 GCTGCCTTCGAATAGTGTGTCCATAGCTAGTGGTCTTGCACATTTGCACATAGAGATATTTGGGACCCA
 AGGGAAACCAGCCATTGCCATCGAGATTTAAAGAGCAAAAATATTCTGGTTAAGAAGAATGGACAGTGT
 TGCATAGCAGATTTGGCCTGGCAGTCATGCATTTCCAGAGCACCAATCAGCTTGATGTGGGGAACAATC
 CCCGTGTGGGACCAAGCGCTACATGGCCCCGAAAGTTCTAGATGAAACCATCCAGGTGGATTGTTTCGA
 TTCTTATAAAAGGGTCGATATTTGGCCCTTGGACTTGTTTTGTGGGAAGTGGCCAGGCGGATGTTGAGC
 AATGGTATAGTGGAGGATTACAAGCCACCGTTCTACGATGTGGTCCCAATGACCCAAGTTTTGAAGATA
 TGAGGAAGGTAGTCTGTGTGGATCAACAAAGGCCAAACATACCCAACAGATGGTTCTCAGACCCGACATT
 AACCTCTCTGGCCAAGCTAATGAAAGAATGCTGGTATCAAAATCCATCCGCAAGACTCACAGCACTGCGT
 ATCAAAAAGACTTTGACCAAAATTGATAATTCCTCGACAAATTGAAAACACTGACTGT

AG**GCGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

>RC402551 representing NM_001105
 Red=Cloning site Green=Tags(s)

MVDGVMILPVLIMIALPSPSMEDEKPKVNPPLYMCVCEGLSCGNEDHCEGQQCFSSLSINDGFHVYQKGC
 FQVYEQKMTCKTPSPGQAVECCQGDWCNRNITAQLPTKGSFPGTQNFHLEVGLIILSVVFAVCLLAC
 LLGVALRKFRRNQERLNPRDVEYGTIEGLITTNVGDSTLADLLDHSCSTSGSGSGLPFLVQRTVAHQITL
 LECVKGGRYGEVWRGSWQGENVAVKIFSSRDEKSWFRETEL YNTVMLRHENILGFIASDMT SRHSSTQLW
 LITHYHEMGSLYDYLQLTTLDTVSLRIVLSIASGLAHLHIEIFGTQGKPAIAHRDLKSKNILVKKNGQC
 CIADLGLAVMHSQSTNQLDVGNPNRVGTKRYMAPEVLDETIQVDCFDYSYKRVDIWAFGLVLWEVARRMVS
 NGIVEDYKPPFYDVVPNDPSFEDMRKVVCVDQQRPNIPNRWFSDPTLTS LAKLMKECWYQNP SARLTALR
 IKKTLTKIDNSLDKLTDC

SGP**TRRRLEQKLI**SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

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).

RefSeq:

[NP_001096](#)

RefSeq Size:

1527 bp

RefSeq ORF:

1530 bp

Locus ID:

90

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

MW: 56 kDa

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]