

Product datasheet for **RC207486**

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

Product data:

Product Type:	Expression Plasmids
Product Name:	Activin Receptor Type IA (ACVR1) (NM_001105) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Activin Receptor Type IA
Synonyms:	ACTRI; ACVR1A; ACVRLK2; ALK2; FOP; SKR1; TSRI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC207486 representing NM_001105
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGTAGATGGAGTGATGATTCTTCCTGTGCTTATCATGATTGCTCTCCCCTCCCCTAGTATGGAAGATG
 AGAAGCCCAAGGTCAACCCCAAACCTCTACATGTGTGTGTGAAGGTCTCTCCTGCGGTAATGAGGACCA
 CTGTGAAGGCCAGCAGTGCTTTTCTCACTGAGCATCAACGATGGCTTCCACGTCTACCAGAAAGGCTGC
 TTCCAGGTTTATGAGCAGGAAAGATGACCTGTAAGACCCCGCCGTCCTCCGCAAGCTGTGGAGTGCT
 GCCAAGGGGACTGGTGTAAACAGGAACATCACGGCCAGCTGCCACTAAAGGAAAATCCTCCCTGGAAC
 ACAGAATTTCCACTTGGAGTTGGCCTCATTATTCTCTGTAGTGTTCGAGTATGCTTTTAGCTGC
 CTGCTGGGAGTTGCTCTCCGAAAATTTAAAGGCGCAACCAAGAAGCGCTCAATCCCGAGACGTGGAGT
 ATGGCACTATCGAAGGGCTCATCACCACCAATGTTGGAGACAGCACTTTAGCAGATTTATTGGATCATT
 GTGTACATCAGGAAGTGGCTCTGGTCTTCTTTCTGGTACAAAGAAGAGTGGCTCGCCAGATTACTG
 TTGGAGTGTGTCGGAAAGGCAGGTATGGTGAGGTGTGGAGGGGAGCTGGCAAGGGGAAAATGTTGCCG
 TGAAGATCTTCTCCTCCCGTGATGAGAAGTCATGGTTCAGGGAACCGAATTGTACAACACTGTGATGCT
 GAGGCATGAAAATATCTTAGGTTTCATTGCTTCAGACATGACATCAAGACACTCCAGTACCCAGCTGTGG
 TTAATTACACATTATCATGAAATGGGATCGTTGTACGACTATCTTCAGCTTACTACTCTGGATACAGTTA
 GCTGCCTTCGAATAGTGTGTCCATAGCTAGTGGTCTTGACATTTGCACATAGAGATATTTGGGACCCA
 AGGAAACCAGCCATTGCCATCGAGATTTAAAGAGCAAAAATATTCTGGTTAAGAAGAATGGACAGTGT
 TGCATAGCAGATTTGGGCTGGCAGTCATGCATTCAGAGCACCACATCAGCTTGATGTGGGAAACAATC
 CCCGTGTGGGACCAAGCGCTACATGGCCCCGAAAGTTCTAGATGAAACCATCCAGTGGATTGTTTCGA
 TTCTTATAAAAGGTCGATATTTGGCCTTTGGACTTGTGTTTGTGGGAAGTGGCCAGGCGGATGGTGAGC
 AATGGTATAGTGGAGGATTACAAGCCACGTTCTACGATGTGGTCCCAATGACCCAAGTTTGAAGATA
 TGAGGAAGGTAGTCTGTGTGGATCAACAAAGGCCAAACATACCCAACAGATGGTTCTCAGACCCGACATT
 AACCTCTCTGGCCAAGCTAATGAAAGAATGCTGGTATCAAAATCCATCCGCAAGACTCACAGCACTGCGT
 ATCAAAAAGACTTTGACCAAAATTGATAATTCCTCGACAAATTGAAAAGTACTGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC207486 representing NM_001105
 Red=Cloning site Green=Tags(s)

MVDGVMLPVLIMIALPSPSMEDEKPKVNPPLYMCVCEGLSCGNEDHCEGQQCFSSLSINDGFHVYQKGC
 FQVYEQKMTCKTPPSPGQAVECCQGDWCNRNITAQLPTKGSFPGTQNFHLEVGLIILSVFVAVLLAC
 LLGVALRKFRRNQERLNPRDVEYGTIEGLITTNVGDSTLADLLDHSTSGSGSGLPFLVQRTVARQITL
 LECVKGGRYGEVWRGWSQGENVAVKIFSSRDEKSWFRETLYNTVMLRHENILGFIASDMTSHSSSTQLW
 LITHYHEMGSLYDYQLTTLDTVSLRIVLSIASGLAHLHIEIFGTQGKPAIAHRDLKSKNILVKKNGQC
 CIADLGLAVMHSQSTNQLDVGNPRVGTKRYMAPEVLDETIQVDCFDYSYKRVDIWAFGLVLWEVARRMVS
 NGIVEDYKPPFYDVVNDPSFEDMRKVVCVDQQRPNIPNRWFSPTLTLAKLMKECWYQNP SARLTALR
 IKKTLTKIDNSLDKDKTDC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mg4103_d05.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_001105

ORF Size: 1527 bp

OTI Disclaimer: 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_001105.2](#), [NP_001096.1](#)

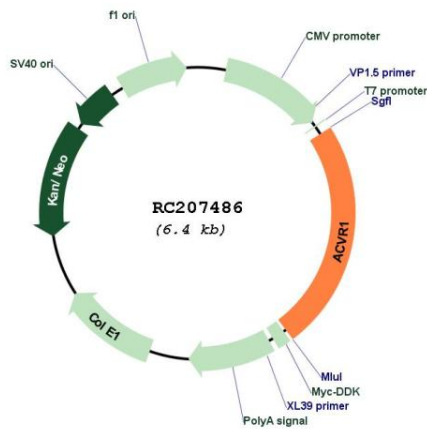
RefSeq Size: 2952 bp

RefSeq ORF: 1530 bp

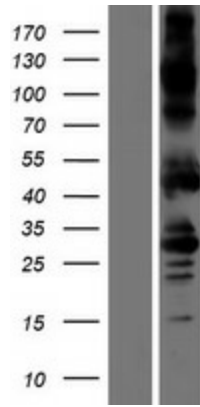
Locus ID: 90

UniProt ID:	<u>Q04771</u>
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:	57.15 kDa
Gene Summary:	<p>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]</p>

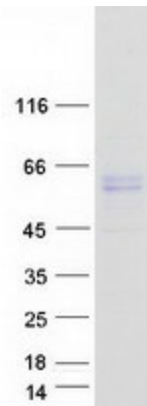
Product images:



Circular map for RC207486



Western blot validation of overexpression lysate (Cat# [LY426349]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with [RC225877] using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ACVR1 protein (Cat# [TP307486]). The protein was produced from HEK293T cells transfected with ACVR1 cDNA clone (Cat# RC207486) using MegaTran 2.0 (Cat# [TT210002]).