

Product datasheet for **RG207486**

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:	TurboGFP
Symbol:	ACVR1
Synonyms:	ACTRI; ACVR1A; ACVRLK2; ALK2; FOP; SKR1; TSRI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG207486 representing NM_001105
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGTAGATGGAGTGATGATTCTTCCTGTGCTTATCATGATTGCTCTCCCCTCCCCTAGTATGGAAGATG
 AGAAGCCCAAGGTCAACCCCAAACCTCTACATGTGTGTGTGAAGGTCTCTCCTCGCGTAATGAGGACCA
 CTGTGAAGGCCAGCAGTGCTTTTCTCACTGAGCATCAACGATGGCTTCCACGTCTACCAGAAAGGCTGC
 TTCCAGGTTTATGAGCAGGAAAGATGACCTGTAAGACCCCGCCGTCCTGCGCAAGCTGTGGAGTGCT
 GCCAAGGGGACTGGTGTAAACAGGAACATCACGGCCAGCTGCCACTAAAGGAAAATCCTCCCTGGAAC
 ACAGAATTTCCACTTGGAGTTGGCCTCATTATTCTCTGTAGTGTTCGAGTATGCTTTTAGCCTGC
 CTGCTGGGAGTTGCTCTCCGAAAATTTAAAGGCGCAACCAAGAAGCGCTCAATCCCGAGACGTGGAGT
 ATGGCACTATCGAAGGGCTCATCACCACCAATGTTGGAGACAGCACTTTAGCAGATTTATTGGATCATT
 GTGTACATCAGGAAGTGGCTCTGGTCTTCTTTTCTGGTACAAAGAAGAGTGGCTCGCCAGATTACTG
 TTGGAGTGTGTCGGAAAGGCAGGTATGGTGGAGTGTGGAGGGGAGCTGGCAAGGGGAAAATGTTGCCG
 TGAAGATCTTCTCCTCCCGTGTGAGAAGTCATGGTTCAGGGAAACGGAATTGTACAACACTGTGATGCT
 GAGGCATGAAAATATCTTAGGTTTCATTGCTTCAGACATGACATCAAGACTCCAGTACCCAGCTGTGG
 TTAATTACACATTATCATGAAATGGGATCGTTGTACGACTATCTTCAGCTTACTACTCTGGATACAGTTA
 GCTGCCTTCGAATAGTGTGTCCATAGCTAGTGGTCTTGACATTTGCACATAGAGATATTTGGGACCCA
 AGGAAACCAGCCATTGCCATCGAGATTTAAAGAGCAAAAATATTCTGGTTAAGAAGAATGGACAGTGT
 TGCATAGCAGATTTGGGCTGGCAGTATGCATTCCCAGACCAATCAGCTTGATGTGGGGAACAATC
 CCCGTGTGGCACCAAGCGCTACATGGCCCCGAAGTTCTAGATGAAACCATCCAGTGGATTGTTCCGA
 TTCTTATAAAAGGTCGATATTTGGGCCTTTGGACTTGTTTTGTGGGAAGTGGCCAGGCGGATGGTGA
 AATGGTATAGTGGAGATTACAAGCCACGTTCTACGATGTGGTCCCAATGACCCAAGTTTGAAGATA
 TGAGGAAGGTAGTCTGTGTGGATCAACAAAGGCCAAACATACCCAACAGATGGTTCTCAGACCCGACAT
 AACCTCTCGCCAAGCTAATGAAAGAATGCTGGTATCAAATCCATCCGCAAGACTCACAGCACTGCGT
 ATCAAAAAGACTTTGACCAAAATTGATAATCCCTCGACAAATTGAAAACACTGACTGT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG207486 representing NM_001105
 Red=Cloning site Green=Tags(s)

MVDGVMILPVLIMIALPSPSMEDEKPKVNPPLYMCVCEGLSCGNEDHCEGQQCFSSLSINDGFHVYQKGC
 FQVYEQGKMTCKTPPSPGQAVECCQGDWCNRNITAQLPTKGSFPGTQNFHLEVGLIILSVVFAVCLLAC
 LLGVALRKFRRNQERLNPRDVEYGTIEGLITTNVGDSTLADLLDHSCTSGSGSGLPFLVQRTVARQITL
 LECVKGGRYGEVWRGWSQGENVAVKIFSSRDEKSWFRETELNTVMLRHENILGFIASDMSRHSSTQLW
 LIITHYHEMGSLYDYQLTTLDTVSLRIVLSIASGLAHLHIEIFGTQGKPAIAHRDLKSKNILVKKNGQC
 CIADLGLAVMHSQSTNQLDVGNPRVGTKRYMAPEVLDETIQVDCFDYSYKRVDIWAFGLVLEVARRMVS
 NGIVEDYKPPFYDVVNDPSFEDMRKVVCVDQQRPNIPNRWSDPTLTSKAKLMKECWYQNP SARLTALR
 IKKTLTKIDNSLDKLTDC

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

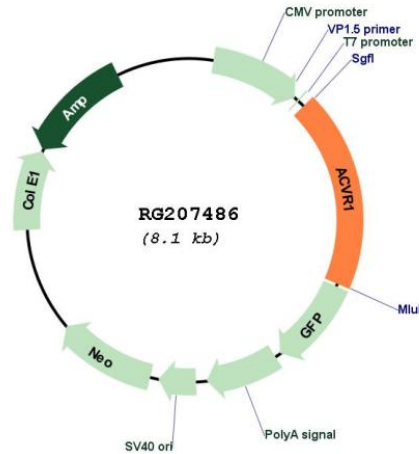
Cloning sites used for ORF Shutting:



Kozac
 Consensus
 SgfI AscI
 CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCCGCCGATCGCCGGCGCCAGATCT

 HindIII NheI RsrII MluI NotI XhoI GFP Tag
 CAAGCTTAACTAGCTAGCGGACCG 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 ACGGCCGGCCGCGGAGCT
 - - E E R V Stop

Plasmid Map:


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:	<ol style="list-style-type: none">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]