OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RC210227

Activin Receptor Type IIA (ACVR2A) (NM_001616) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Activin Receptor Type IIA (ACVR2A) (NM_001616) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Activin Receptor Type IIA
Synonyms:	ACTRII; ACVR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC210227 representing NM_001616
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGAGCTGCTGCAAAGTTGGCGTTTGCCGTCTTTCTTATCTCCTGTTCTTCAGGTGCTATACTTGGTA
GATCAGAAACTCAGGAGTGTCTTTTCTTTAATGCTAATTGGGAAAAAGACAGAACCAATCAAACTGGTGT
TGAACCGTGTTATGGTGACAAAGATAAACGGCGGCATTGTTTTGCTACCTGGAAGAATATTTCTGGTTCC
ATTGAAATAGTGAAACAAGGTTGTTGGCTGGATGATATCAACTGCTATGACAGGACTGATTGTGTAGAAA
AAAAAGACAGCCCTGAAGTATATTTTTGTTGCTGTGAGGGCAATATGTGTAATGAAAAGTTTTCTTATTT
TCCAGAGATGGAAGTCACACAGCCCACTTCAAATCCAGTTACACCTAAGCCACCCTATTACAACATCCTG
CTCTATTCCTTGGTGCCACTTATGTTAATTGCGGGGATTGTCATTTGTGCATTTTGGGTGTACAGGCATC
ACAAGATGGCCTACCCTCCTGTACTTGTTCCAACTCAAGACCCAGGACCACCCCCACCTTCTCCATTACT
AGGTTTGAAACCACTGCAGTTATTAGAAGTGAAAGCAAGGGGAAGATTTGGTTGTGTCTGGAAAGCCCAG
TTGCTTAACGAATATGTGGCTGTCAAAATATTTCCAATACAGGACAAACAGTCATGGCAAAATGAATACG
AAGTCTACAGTTTGCCTGGAATGAAGCATGAGAACATATTACAGTTCATTGGTGCAGAAAAACGAGGCAC
CAGTGTTGATGTGGATCTTTGGCTGATCACAGCATTTCATGAAAAGGGTTCACTATCAGACTTTCTTAAG
GCTAATGTGGTCTCTTGGAATGAACTGTGTCATATTGCAGAAACCATGGCTAGAGGATTGGCATATTTAC
ATGAGGATATACCTGGCCTAAAAGATGGCCACAAACCTGCCATATCTCACAGGGACATCAAAAGTAAAAA
TGTGCTGTTGAAAAACAACCTGACAGCTTGCATTGCTGACTTTGGGTTGGCCTTAAAATTTGAGGCTGGC
AAGTCTGCAGGCGATACCCATGGACAGGTTGGTACCCGGAGGTACATGGCTCCAGAGGTATTAGAGGGTG
CTATAAACTTCCAAAGGGATGCATTTTTGAGGATAGATATGTATGCCATGGGATTAGTCCTATGGGAACT
GGCTTCTCGCTGTACTGCTGCAGATGGACCTGTAGATGAATACATGTTGCCATTTGAGGAGGAAATTGGC
CAGCATCCATCTCTTGAAGACATGCAGGAAGTTGTTGTGCATAAAAAAAAGAGGCCTGTTTTAAGAGATT
ATTGGCAGAAACATGCTGGAATGGCAATGCTCTGTGAAACCATTGAAGAATGTTGGGATCACGACGCAGA
AGCCAGGTTATCAGCTGGATGTGTAGGTGAAAGAATTACCCAGATGCAGAGACTAACAAATATTATTACC
ACAGAGGACATTGTAACAGTGGTCACAATGGTGACAAATGTTGACTTTCCTCCCAAAGAATCTAGTCTA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC210227 representing NM_001616
Red=Cloning site Green=Tags(s)

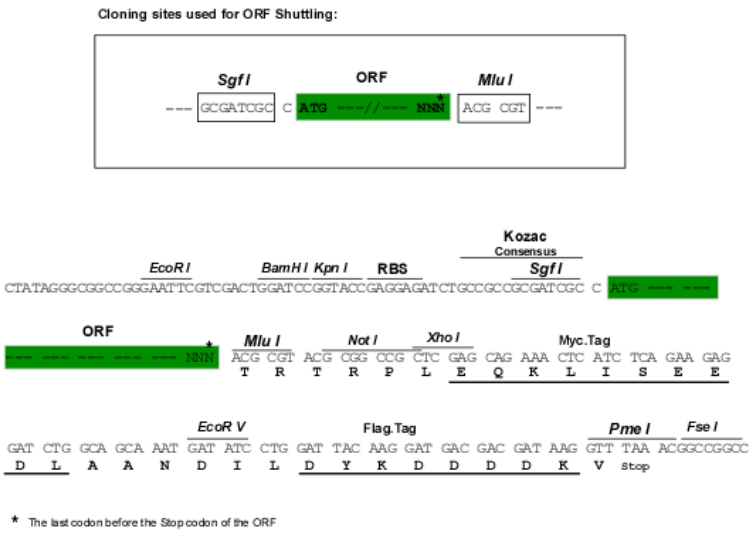
MGAAAKLAFAVFLISCSSGAILGRSETQECLFFNANWEKDRTNQTGVEPCYGDKDKRRHCFATWKNISGS
IEIVKQGCWLDDINCYDRTDCVEKKDSPEVYFCCCEGNMCNEKFSYFPEMEVTQPTSNPVTPKPPYYNIL
LYSLVPLMLIAGIVICAFWVYRHHKMAYPPVLVPTQDPGPPPPSPLLGLKPLQLLEVKARGRFGCVWKAQ
LLNEYVAVKIFPIQDKQSWQNEYEVYSLPGMKHENILQFIGAEKRGTSVDVDLWLITAFHEKGSLSDFLK
ANVVSWNELCHIAETMARGLAYLHEDIPGLKDGHKPAISHRDIKSKNVLLKNNLTACIADFGLALKFEAG
KSAGDTHGQVGTRRYMAPEVLEGAINFQRDAFLRIDMYAMGLVLWELASRCTAADGPVDEYMLPFEEEIG
QHPSLEDMQEVVVHKKKRPVLRDYWQKHAGMAMLCETIEECWDHDAEARLSAGCVGERITQMQRLTNIIT
TEDIVTVVTMVTNVDFPPKESSL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg3781_h01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001616

ORF Size: 1539 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

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

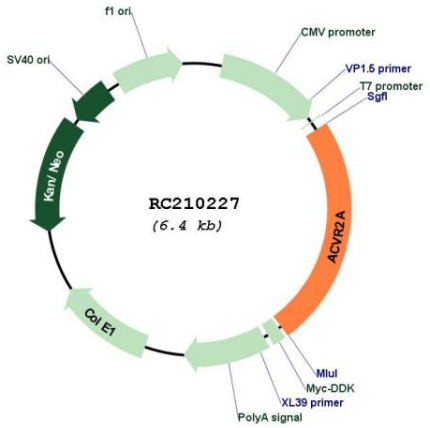
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

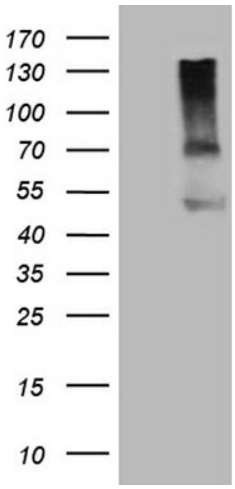
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store 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_001616.5
RefSeq Size:	5244 bp
RefSeq ORF:	1542 bp
Locus ID:	92
UniProt ID:	P27037
Cytogenetics:	2q22.3-q23.1
Domains:	Activin_recp, pkinase, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase, Transmembrane
Protein Pathways:	Cytokine-cytokine receptor interaction, TGF-beta signaling pathway
MW:	57.85 kDa
Gene Summary:	This gene encodes a receptor that mediates the functions of activins, which are members of the transforming growth factor-beta (TGF-beta) superfamily involved in diverse biological processes. The encoded protein is a transmembrane serine-threonine kinase receptor which mediates signaling by forming heterodimeric complexes with various combinations of type I and type II receptors and ligands in a cell-specific manner. The encoded type II receptor is primarily involved in ligand-binding and includes an extracellular ligand-binding domain, a transmembrane domain and a cytoplasmic serine-threonine kinase domain. This gene may be associated with susceptibility to preeclampsia, a pregnancy-related disease which can result in maternal and fetal morbidity and mortality. Alternative splicing results in multiple transcript variants of this gene. [provided by RefSeq, Jun 2013]

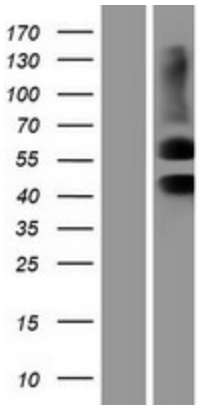
Product images:



Circular map for RC210227



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ACVR2A (Cat# RC210227, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ACVR2A (Cat# [TA807404])(1:500). Positive lysates [LY419844] (100ug) and [LC419844] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419844]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210227 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).