

Product datasheet for **MR220419**

Acvr1b (NM_007395) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Acvr1b (NM_007395) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Acvr1b
Synonyms:	6820432J04; ActR-IB; ActRIB; Acvr1k4; Alk4; SKR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR220419 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGAGTCGGCCGGAGCCTCCTCTTCTTCCCCCTTGTGTCTCTGCTCGCCGGCAGCGCGGGT
 CCGGGCCCCGGGGATCCAGGCTCTGCTGTGTGGTGCACACAGCTGCCTACAGACCAACTACACCTGTGA
 GACAGATGGGGCTTGCATGGTCTCCATCTTTAACCTGGATGGCGTGGAGCACCATGTACGTACCTGCATC
 CCCAAGGTGGAGCTGGTTCTGTGAAAGCCCTTCTACTGCCTGAGTTCAGAGGATCTGCGCAACACAC
 ACTGCTGTATATTGACTTCTGCAACAAGATTGACCTCAGGGTCCCAGCGGACACCTCAAGGAGCTGC
 GCACCCCTCCATGTGGGGCCCTGTGGAGCTGGTCGGCATCATCGCCGGCCCCGTCTTCTCTCTTCTT
 ATCATTATCATCGTCTTCTGGTCATCAACTATCACCAGCGTGTCTACCATAACCGCCAGAGTTGGACA
 TGGAGGACCCCTCTTGCAGATGTGTCTCCTCAAAGACAAGACGCTCCAGGATCTCGTCTACGACCTCTC
 CACGTCAGGGTCTGGCTCAGGGTACCCTTTTTGTCCAGCGCACAGTGGCCCGAACATTGTTTTACAA
 GAGATTATCGGCAAGGGCCGGTTCGGGGAAGTATGGCGTGGTCCGTCGGAGGGTGGTACGCTGGCTGTGA
 AAATCTTCTCTTCTCGTGAAGAACGGTCTTGGTCCGTGAAGCAGAGATCTACCAGACCGTCATGCTGCG
 CCATGAAAACATCCTTGGCTTTATTGCTGCTGACAATAAAGATAATGGCACCTGGACCCAGCTGTGGCTT
 GTCTCTGACTATCAGGAGCATGGCTCACTGTTGATTATCTGAACCGCTACACAGTGACCATTGAGGGAA
 TGATTAAGCTAGCCTTGTCTGCAGCCAGTGGTTGGCACACCTGCATATGGAGATTGTGGCACTCAAGG
 GAAGCCGGGAATTGCTCATCGAGACTTGAAGTCAAAGAACATCCTGGTAAAAAATGGCATGTGTGCC
 ATTGCAGACCTGGGCCTGGCTGTCCGTCATGATGCGGTCACGACCATAGACATTGCTCCAAATCAGA
 GGGTGGGACCAAACGATACATAGCTCCTGAAGTCTTGAAGACAATCAACATGAAGCACTTTGACTC
 CTTCAAAATGTGCCGACATCTATGCCCTCGGGCTTGTCTACTGGGAGATTGCACGAAGATGCAATTCTGGA
 GGAGTCCATGAAGACTATCAACTGCCGATTACGACTTAGTGCCCTCCGACCCCTTCCATTGAGGAGATGC
 GAAAGGTTGTATGTGACCAGAAGCTACGGCCCAATGTCCCAACTGGTGGCAGAGTTATGAGGCCTTGCG
 AGTGATGGGAAAGATGATGCGGGAGTGTGGTACGCCAATGGTGTGCCGCTGACAGCTCTGCGCATC
 AAGAAGACTCTGTCCAGCTAAGCGTGCAGGAAGATGTGAAGATT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR220419 protein sequence
 Red=Cloning site Green=Tags(s)

MAESAGASSFFPLVLLLAGSGSGPRGIQALLCACTSCLQNTYTCETDGACMVSIFNLDGVEHHVRTCI
 PKVELVPAGKPFYCLSSIDLNRTHCCYIDFCNKIDLRVPSGHLKEPAHPSMWGPVELVGIAGPVFLLFL
 IIIIVFLVINYHQRVYHNRQLDMEPSCMCLSKDKTLQDLVYDLSTSGSGSGLPLFVQRTVARTIVLQ
 EIIIGKRFGEVWRGRWRGGDVAVKIFSSREERSWFREAEIYQTVMLRHENILGFIAADNKDNGTWTQLWL
 VSDYHEHGS�FDYLNRYVTIEGMIKLALSAASGLAHLHMEIVGTQGKPGIAHRDLKSKNILVKKNGMCA
 IADLGLAVRHDAVTDIDIANPQRVGTKRYMAPEVLDETINMKHFDSEFKCADIYALGLVYWEIARRCNSG
 GVHEDYQLPYYDLVPSDPSIEEMRKVVCDQKLRPNVFNWQSYEALRVMGKMMRECWYANGAARLTALRI
 KKTLSQLSVQEDVKI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_007395

ORF Size: 1518 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.

RefSeq: [NM_007395.4](#)

RefSeq Size: 3277 bp

RefSeq ORF: 1518 bp

Locus ID: 11479

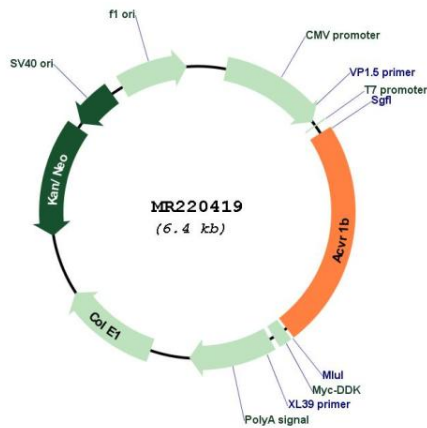
UniProt ID: [Q61271](#)

Cytogenetics: 15 56.48 cM

MW: 56.7 kDa

Gene Summary: Transmembrane serine/threonine kinase activin type-1 receptor forming an activin receptor complex with activin receptor type-2 (ACVR2A or ACVR2B). Transduces the activin signal from the cell surface to the cytoplasm and is thus regulating a many physiological and pathological processes including neuronal differentiation and neuronal survival, hair follicle development and cycling, FSH production by the pituitary gland, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. Activin is also thought to have a paracrine or autocrine role in follicular development in the ovary. Within the receptor complex, type-2 receptors (ACVR2A and/or ACVR2B) act as a primary activin receptors whereas the type-1 receptors like ACVR1B act as downstream transducers of activin signals. Activin binds to type-2 receptor at the plasma membrane and activates its serine-threonine kinase. The activated receptor type-2 then phosphorylates and activates the type-1 receptor such as ACVR1B. Once activated, the type-1 receptor binds and phosphorylates the SMAD proteins SMAD2 and SMAD3, on serine residues of the C-terminal tail. Soon after their association with the activin receptor and subsequent phosphorylation, SMAD2 and SMAD3 are released into the cytoplasm where they interact with the common partner SMAD4. This SMAD complex translocates into the nucleus where it mediates activin-induced transcription. Inhibitory SMAD7, which is recruited to ACVR1B through FKBP1A, can prevent the association of SMAD2 and SMAD3 with the activin receptor complex, thereby blocking the activin signal. Activin signal transduction is also antagonized by the binding to the receptor of inhibin-B via the IGSF1 inhibin coreceptor. ACVR1B also phosphorylates TDP2.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR220419