

## Product datasheet for **RG212816**

### Activin Receptor Type IIB (ACVR2B) (NM\_001106) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Activin Receptor Type IIB (ACVR2B) (NM_001106) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Activin Receptor Type IIB
Synonyms:	ActR-IIB; ACTRIIB; HTX4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG212816 representing NM\_001106  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGACGGCGCCCTGGGTGCCCTCGCCCTCCTCTGGGGATCGCTGTGCGCCGGCTCTGGCGTGGGGAGG  
 CTGAGACACGGGAGTGCATCTACTACAACGCCAACTGGGAGCTGGAGCGACCAACCAGAGCGGCCCTGGA  
 GCGCTGCGAAGGCGAGCAGGACAAGCGGCTGCACTGCTACGCTCCTGGCGCAACAGCTCTGGCACCATC  
 GAGCTCGTGAAGAAGGGCTGCTGGCTAGATGACTTCAACTGCTACGATAGGCAGGAGTGTGTGGCCACTG  
 AGGAGAACCCCCAGGTGACTTCTGCTGCTGTGAAGGCAACTTCTGCAACGAACGCTTCACTCATTTGCC  
 AGAGGCTGGGGGCCGGAAGTACGTACGACCCACCCCGACAGCCCCACCTGCTCACGGTGTGGCC  
 TACTACTGCTGCCCATCGGGGCTTTCCCTCATCGTCTGCTGGCCTTTTGGATGTACCGGCATCGCA  
 AGCCCCCTACGGTCATGTGGACATCCATGAGGACCTGGGCCTCCACCACCATCCCTCTGGTGGGCC  
 GAAGCCACTGCAGCTGCTGGAGATCAAGGCTCGGGGGCGCTTTGGCTGTGTCTGGAAGGCCAGCTCATG  
 AATGACTTTGTAGCTGTCAAGATCTTCCACTCCAGGACAAGCAGTCTGGCAGAGTGAACGGGAGATCT  
 TCAGCACACCTGGCATGAAGCACGAGAACCTGCTACAGTTCATTGCTGCCGAGAAGCGAGGCTCCAACT  
 CGAAGTAGAGCTGTGGCTCATCACGGCCTTCCATGACAAGGGCTCCCTCACGGATTACCTCAAGGGGAAC  
 ATCATCACATGGAACGAAGTGTGTATGTAGCAGAGACGATGTCACGAGGCTCTCATACCTGCATGAGG  
 ATGTGCCCTGGTCCGTCGGCAGGGCCACAAGCCGTCTATTGCCACAGGGACTTTAAAAGTAAGAATGT  
 ATTGCTGAAGAGCGACCTCACAGCCGTGCTGGCTGACTTTGGCTTGGCTGTTTCGATTTGAGCCAGGGAAA  
 CCTCCAGGGGACCCACGGACAGGTAGGCACGAGACGGTACATGGCTCCTGAGGTGCTCGAGGGAGCCA  
 TCAACTCCAGAGAGATGCCTTCTGCGCATTGACATGTATGCCATGGGTTGGTGTGGGGAGCTTGT  
 GTCTCGCTGCAAGGCTGCAGACGGACCCGTGGATGAGTACATGCTGCCCTTTGAGGAAGAGATTGGCCAG  
 CACCTTCGTTGGAGGAGCTGCAGGAGGTGGTGGTGCACAAGAAGATGAGGCCACCATTAAAGTCACT  
 GGTGAAACACCCGGCCTGGCCAGCTTTGTGTGACCATCGAGGAGTGTGGGACCATGATGCAGAGGC  
 TCGCTTGTCCGCGGGCTGTGTGGAGGAGCGGTGTCCCTGATTCCGAGGTCGGTCAACGGCACTACCTCG  
 GACTGTCTCGTTCCCTGGTACCTCTGTACCAATGTGGACCTGCCCCCTAAAGAGTCAAGCATC

**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA**

**Protein Sequence:**

>RG212816 representing NM\_001106  
 Red=Cloning site Green=Tags(s)

MTAPWVALALLWGS LCAGSRGEAETRECIYYNANWELERTNQSLERCEGEQDKRLHCYASWRNSSGTI  
 ELVKKGCWLDNFNCYDRQECVATEENPQVYFCCCEGNFCNERFTHLPEAGGPEVTYEPPTAPTLLTVLA  
 YSLLPIGGLSLIVLLAFWMYRHRKPPYGHVDIHEDPGPPPPSPLVGLKPLQLEIKARGRFGCVWKAQLM  
 NDFVAVKIFPLQDKQSWQSEREIFSTPGMKHENLLQFIAAEKRGSNLEVELWLITAFHDKGSLTDYLGKN  
 IITWNELCHVAETMSRGLSYLHEDVPWCRGEGHKPSIAHRDFKSKNVLLKSDLTAVLADFLAVRFEPGK  
 PPGDTHGQVGTTRYMAPEVLEGAINFQRDAFLRIDMYAMGLVLWELVSRCKAADGPVDEYMLPFEEEEIGQ  
 HPSLEELQEVVVHKKMRPTIKDHWLKHPGLAQLCVTIEECWDHDAEARLSAGCVEERVSLIRRSVNGTTS  
 DCLVSLVTSVTNVDLPPKESSI

**TRTRPLE - GFP Tag - V**

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001106

**ORF Size:** 1536 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\\_001106.4](#)

**RefSeq Size:** 1584 bp

**RefSeq ORF:** 1539 bp

**Locus ID:** 93

**UniProt ID:** [Q13705](#)

**Cytogenetics:** 3p22.2

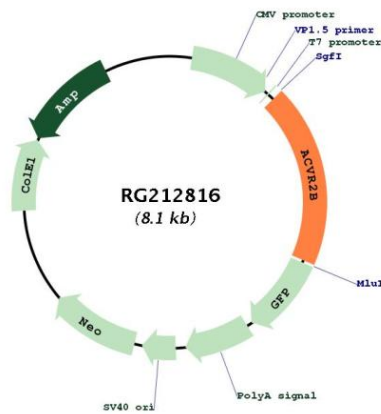
**Domains:** Activin\_recp, pkinase, TyrKc, S\_TKc

**Protein Families:** Druggable Genome, 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. Type II receptors are considered to be constitutively active kinases. This gene encodes activin A type IIB receptor, which displays a 3- to 4-fold higher affinity for the ligand than activin A type II receptor. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG212816