Active Recombinant Human ACVR2A

Cat. No. ACVR2A-8314H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human ACVR2A was expressed in Sf 21 Insect Cells.
Species	Human
Source	Sf21 Cells
Description	Activin A receptor, type IIA, also known as ACVR2A, is a human gene. ACVR2A is an activin type 2 receptor. This gene encodes activin A type II receptor. 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.?Activin type II receptors are highly conserved. Human, mouse and rat type II activin receptors share greater than 98% amino acid sequence homology. Recombinant soluble activin type II receptors bind activin with high affinity, and are potent activin antagonists.
Form	This recombinant protein was 0.2 μm filtered and lyophilized from modified

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	Dulbecco's phosphate buffered saline (1X PBS) pH 7.2 – 7.3 with no calcium, magnesium, or preservatives.
Bio-activity	The biological activity of Human Act R-IIA was determined by its ability to inhibit Activin A induced hemoglobin expression in K562 human chronic myelogenous leukemia cells. Approximately 0.03 - 0.1 μg/ml of rhActivin RIIA/Fc Chimera will inhibit 50% of the biological response due to 3 ng/ml of rhActivin A.
Molecular Mass	The predicted molecular weight of Recombinant Human Act R-IIA is Mr 40 kDa (monomer). However, the actual molecular weight as observed by migration on SDS-PAGE is Mr 50 kDa.
AA Sequence	setqec lffnanwekd rtnqtgvepc ygdkdkrrhc fatwknisgs ieivkqgcwl ddincydrtd cvekkdspev yfcccegnmc nekfsyfpem evtqptsnpv tpkpiegrmd pkscdkthtc ppcpapellg gpsvflfppk pkdtlmisrt pevtcvvvdv shedpevkfn wyvdgvevhn aktkpreeqy nstyrvvsvl tvlhqdwlng keykckvsnk alpapiekti skakgqprep qvytlppsrd eltknqvslt clvkgfypsd iavewesngq pennykttpp vldsdgsffl yskltvdksr wqqgnvfscs vmhealhnhy tqkslslspg khhhhhh
Endotoxin	<1.0 eu/μg="" as="" determined="" by="" the="" lal="">
Purity	>95% by SDS-PAGE and analyzed by silver stain.
Storage	This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles.

GENE INFORMATION

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Gene Name	ACVR2A activin A receptor, type IIA [Homo sapiens]
Official Symbol	ACVR2A
Synonyms	ACVR2A; activin A receptor, type IIA; activin A receptor, type II , ACVR2; activin receptor type-2A; ACTRII; ACVR2;
Gene ID	92
mRNA Refseq	NM_001616
Protein Refseq	NP_001607
MIM	102581
UniProt ID	P27037
Chromosome Location	2q22.2-q23.3
Pathway	ALK1 signaling events, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Developmental Biology, organism-specific biosystem; Regulation of Signaling by NODAL, organism-specific biosystem; Signal Transduction, organism-specific biosystem; Signaling by BMP, organism-specific biosystem;
Function	ATP binding; contributes_to activin binding; activin receptor activity, type II; contributes_to activin-activated receptor activity; coreceptor activity; growth factor binding; inhibin beta-A binding; inhibin beta-B binding; metal ion binding; nucleotide binding; protein binding; contributes_to protein binding; protein self-association;

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	protein serine/threonine kinase activity; receptor activity; receptor signaling protein serine/threonine kinase activity; transforming growth factor beta-activated receptor activity; transmembrane receptor protein serine/threonine kinase activity;

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