

Recombinant Human Activin A Receptor, Type I, Fc Chimera

Cat. No. ACVR1-489H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human activin A receptor, Type I encoding the signal peptide and extracellular domain of human activin A receptor, Type I (aa 1-123) was fused to the Fc region of human IgG1 (aa 90-330). The chimeric protein was expressed in modified <i>human 293 cells</i> .
Species	Human
Source	HEK293
Protein Length	1-123 a.a.
Description	Activin A receptor, type I, Fc Chimera (also known as ACVR1 or ALK-2) is an activin type I receptor. The activin type I receptors transducer signals for a variety of members of the transforming growth factor (TGF) beta superfamily of ligands. This family of cytokine and hormones include activin, anti-müllerian hormone (AMH), bone morphogenetic proteins (BMPs) and nodal. Despite the large amount of processes that these ligands regulate, they all operate through essentially the same pathway: A ligand binds to a type II receptor, which recruits and trans-phosphorylates a type I receptor.
Amino Acid Sequence	MEDEKPKVNPPLYMCVCEGLSCGNEDHCEGQQCFSSLSINDGFHVYQKGC FQVYE QGKMTCKTPPSPGQAVECCQGDWCNRNITAQLPTKGKSFPQTQNFHLEGSSNTKV DKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSH EDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKV

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SNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHY
TQKLSLSLSPGK.

Molecular Mass

Under reducing conditions Activin A Receptor, Type I, Fc Chimera migrates as a broad band between 40 and 48 kDa on SDS-PAGE due to post-translational modifications, in particular glycosylation.

PI

Activin A Receptor, Type I, Fc Chimera separates into a number of glycoforms with an observed pI between 5.5 and 8.5 on 2D PAGE due to post-translational modifications, in particular glycosylation.

% Carbohydrate

Purified Activin A Receptor, Type I, Fc Chimera consists of 3-20% carbohydrate by weight.

Glycosylation

Activin A Receptor, Type I, Fc Chimera contains N-linked oligosaccharides and may contain O-linked oligosaccharides.

Purity

>95%, as determined by SDS-PAGE and visualized by Coomassie Brilliant Blue.

Formulation

When reconstituted in 0.5 ml sterile phosphate-buffered saline, the solution will contain 1% human serum albumin (HSA) and 10% trehalose.

Reconstitution

It is recommended that 0.5 ml of sterile phosphate-buffered saline be added to the vial.

Storage

Lyophilized products should be stored at 2 to 8°C. Following reconstitution short-term storage at 4°C is recommended, with longer-term storage in aliquots at -18 to -20°C. Repeated freeze thawing is not recommended.

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GENE INFORMATION

Gene Name	VR1 activin A receptor, type I [Homo sapiens]
Synonyms	ACVR1; activin A receptor, type I; FOP; ALK2; SKR1; TSRI; ACTRI; ACVR1A; ACVRLK2; OTTHUMP00000204604; OTT HUMP000002 04626; hydroxyalkyl-protein kinase; TGF-B superfamily receptor type I; activin A receptor, type II-like kinase 2; serine/threonine-protein kinase receptor R1; EC 2.7.11.30
Gene ID	90
mRNA Refseq	NM_001105
Protein Refseq	NP_001096
UniProt ID	Q04771
Chromosome Location	2q23-q24
MIM	102576
Pathway	Cytokine-cytokine receptor interaction; TGF-beta signaling pathway
Function	ATP binding; SMAD binding; activin binding; activin receptor activity, type I; follistatin binding; gnesium ion binding; manganese ion binding; nucleotide binding; protein homodimerization activity; receptor activity; transferase activity; transforming growth factor beta binding

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