

# Recombinant Human ACVR1B Protein (N150-I505), His tagged

**Cat. No.** ACVR1B-1289H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |  |
|-------------------------|--|
| <b>Product Overview</b> | Recombinant Human 8His-TEV-ALK4(N150-I505 end) Protein was expressed in Insect cell.   |
| <b>Species</b>          | Human  |
| <b>Source</b>           | Insect Cells   |
| <b>ProteinLength</b>    | N150-I505  |
| <b>Description</b>      | <p>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</p> |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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.

|                       |  |
|-----------------------|--|
| <b>Form</b>           | Liquid   |
| <b>Endotoxin</b>      | < 0.01 EU per µg of the protein  |
| <b>Purity</b>         | 90%  |
| <b>Stability</b>      | Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.  |
| <b>Storage</b>        | Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles |
| <b>Storage Buffer</b> | Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol  |
| <b>Shipping</b>       | It is shipped out with blue ice.   |

## GENE INFORMATION

|                        |   |
|------------------------|---|
| <b>Gene Name</b>       | ACVR1B activin A receptor, type IB [ Homo sapiens (human) ]                     |
| <b>Official Symbol</b> | ACVR1B  |
| <b>Synonyms</b>        | ACVR1B; activin A receptor, type IB; ACVRLK4; activin receptor type-1B; ActRIB; |

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ALK4; SKR2; activin receptor-like kinase 4; activin A receptor, type II-like kinase 4; serine/threonine-protein kinase receptor R2; ACTRIB;

**Gene ID**

91

**mRNA Refseq**

NM\_004302

**Protein Refseq**

NP\_004293

**MIM**

601300

**UniProt ID**

P36896

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