

Recombinant Canine ACVR1, His-tagged

Cat. No. ACVR1-161C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	A DNA sequence encoding the canine ACVR1 (XP_549615.2) (Met1-Glu123) was expressed with a C-terminal polyhistidine tag.
Species	Canine
Source	Human Cells
ProteinLength	Met1-Glu123
Description	Cytokines and hormones belonging to the transforming growth factor beta (TGFβ) superfamily such as the activin, anti-müllerian hormone (AMH), bone morphogenetic proteins (BMPs), and Nodal, are involved in a variety of physiological processes including growth, cell differentiation, homeostasis, osteogenesis, and apoptosis. They initiate signaling through heteromeric complexes of a type I and a type II serine/threonine kinase receptor. The two type receptors are type I transmembrane proteins and are distinguished by the presence of a glycine/serine-rich juxta-membrane domain found in the type I receptors. Type II receptors are required for binding ligands and recruitment of type I receptors which then form stable complexes, and type I receptors are essential for signaling transduction. ALK2, also termed as ACVR1, ActRI, SKR1, was initially identified as an activin type I receptor because of its ability to bind activin in concert with ActRII or IIB. In addition, ALK2 is also identified as a BMP type I receptor. ACVR1 has been demonstrated to form complex with either the BMP-2/7- bound BMPR-II or ACVR2A/ACVR2B and transduce signals to downstream components R-SMADs. Recombinant soluble ALK2 does not bind

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

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	activin. Mutations in this gene are associated with fibrodysplasia ossificans progressive.
Form	Lyophilized from sterile PBS, pH7.4.
Molecular Mass	The recombinant canine ACVR1 comprises 114 amino acids and has a predicted molecular mass of 13 kDa. The apparent molecular mass of the protein is approximately 19 kDa in SDS-PAGE under reducing conditions due to glycosylation.
Endotoxin	< 1.0 eu per µg of the protein as determined by the LAL method.
Purity	>95 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70°C
Storage	Store it under sterile conditions at -70°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	Hardcopy of COA with reconstitution instruction is sent along with the products.

GENE INFORMATION

Gene Name	ACVR1 activin A receptor, type I [<i>Canis lupus familiaris</i>]
Official Symbol	ACVR1
Synonyms	ACVR1; activin A receptor, type I; activin receptor type-1;
Gene ID	478757
Pathway	Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-

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cytokine receptor interaction, conserved biosystem; TGF-beta signaling pathway,
organism-specific biosystem; TGF-beta signaling pathway, conserved biosystem;

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