# Recombinant Canine ACVR1, His-tagged

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

## SPECIFICATION

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| **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 I I 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 |

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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℃ |
| **Storage** | Store it under sterile conditions at -70℃. 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

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| **Gene Name** | ACVR1 activin A receptor, type I [ Canis lupus familiaris ] |
| **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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