Recombinant Mouse BMPR-IA/ALK-3 Fc Chimera
Catalog Number: 437-MR

DESCRIPTION

Source: Mouse myeloma cell line, NS0-derived

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<th>N-terminal Sequence</th>
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<td>No results obtained: Gln24 predicted</td>
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Structure / Form: Disulfide-linked homodimer

Predicted Molecular Mass: 41.5 kDa (monomer)

SPECIFICATIONS

SDS-PAGE: 55 kDa, reducing conditions


The ED₅₀ for this effect is 0.05-0.2 µg/mL in the presence of 30 ng/mL of recombinant human BMP-4.

Endotoxin Level: <1.0 EU per 1 µg of the protein by the LAL method.

Purity: >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation: Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution: Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage:
- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Bone Morphogenetic Protein Receptor IA (BMPR-IA), also known as ALK-3, BRK-1, and CD292, is a glycosylated 60 - 65 kDa type I receptor in the TGF-β serine/threonine kinase receptor family (1 - 3). Binding of TGF-β superfamily ligands induces formation of a heterotetrameric complex that contains two chains each of a type I and a type II receptor in multiple combinations. The type II receptors phosphorylate the type I receptors which then phosphorylate and activate Smad signal transduction proteins (1, 2). Mature mouse BMPR-IA consists of a 129 amino acid (aa) extracellular domain (ECD), a 24 aa transmembrane segment, and a 356 aa cytoplasmic region that contains the tyrosine kinase domain (4, 5). Within the ECD, mouse BMPR-IA shares 98% aa sequence identity with human and rat BMPR-IA. BMPR-IA is involved in the development and function of a wide range of tissues. During early embryogenesis it is required for migration of the anterior visceral endoderm (AVE) and proper development of the anterior-posterior axis (6). Tissue-specific conditional knockout experiments have demonstrated the importance of BMPR-IA in the development and morphogenesis of the heart, lung, palate, teeth, and mandible (7 - 9). In the adult, BMPR-IA plays a role in glucose-stimulated insulin secretion by pancreatic beta cells, osteoclast activity and bone remodeling, reactive astrocyte-mediated scar formation following spinal cord injury, and ovulation and fertility (10 - 13).

References: