<table>
<thead>
<tr>
<th>Source</th>
<th>Mouse myeloma cell line, NS0-derived</th>
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</thead>
<tbody>
<tr>
<td><strong>Human ALK-1</strong>&lt;br&gt;(Asp22 - Gin118)&lt;br&gt;Accession # P37023.2</td>
<td><strong>IEGRID</strong>&lt;br&gt;(Pro100 - Lys330)</td>
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### N-terminal Sequence Analysis
Asp22

### Structure / Form
Disulfide-linked homodimer

### Predicted Molecular Mass
37.3 kDa (monomer)

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### SPECIFICATIONS

#### SDS-PAGE
50-55 kDa, reducing conditions

#### Activity

The ED_{50} for this effect is 3-12 ng/mL in the presence of 2 ng/mL of rhBMP-9.

#### Endotoxin Level
<0.10 EU per 1 μg of the protein by the LAL method.

#### Purity
>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

#### Formulation
Lyophilized from a 0.2 μm filtered solution in PBS. See Certificate of Analysis for details.

### PREPARATION AND STORAGE

#### Reconstitution
Reconstitute at 100 μg/mL in sterile PBS.

#### 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.

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### BACKGROUND
Transforming Growth Factor beta (TGF-β) superfamily ligands exert their biological activities via binding to heteromeric receptor complexes of two types (I and II) of serine/threonine kinases. Type II receptors are constitutively active kinases that phosphorylate type I receptors upon ligand binding. In turn, activated type I kinases phosphorylate downstream signaling molecules including the various Smads. Transmembrane proteoglycans, including the type III receptor (betaglycan) and endoglin, can bind and present some of the TGF-β superfamily ligands to type I and II receptor complexes and enhance their cellular responses. Seven type I receptors (also termed activin receptor-like kinase (ALK)) and five type II receptors have been isolated from mammals. ALK-2, -3, -4, -5, and -6 are also known as Activin R1A, BMPR-1A, Activin R1B, TGF-β R1, and BMPR-1B, respectively, reflecting their ligand preferences. Evidence suggests that TGF-β1, TGF-β3 and an unknown ligand present in serum can activate chimeric ALK-1. ALK-1 shares with other type I receptors a cysteine-rich domain with conserved cysteine spacing in the extracellular region, and a glycine- and serine-rich domain (the GS domain) preceding the kinase domain. ALK-1 is expressed highly in endothelial cells and other highly vascularized tissues. The expression patterns of ALK-1 parallel that of endoglin. Mutations in ALK-1 as well as in endoglin are associated with hereditary hemorrhagic telangiectasia (HHT), suggesting a critical role for ALK-1 in the control of blood vessel development or repair. Human and mouse ALK-1 share approximately 71% amino acid sequence identity in their extracellular regions.

### References: