

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse ALK-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, this antibody does not cross-react with recombinant human Activin RIA, rhActivin RIB, or rhALK-1.
Source	Monoclonal Rat IgG _{2A} Clone # 143430
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse ALK-1 Asp23-Pro119 Accession # Q61288
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 parallels 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.

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