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Recombinant Mouse TGF-β RI/ALK-5 Fc Chimera

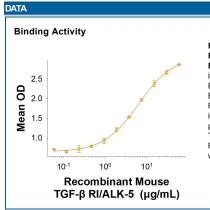
Catalog Number: 587-RIB

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DESCRIPTION Source	Spodoptera frugiperda, Sf 21 (baculovirus)-derived mouse TGF-beta RI/ALK-5 protein			
	Mouse TGF-β RI (Ala21-Glu121) & (Thr22-Glu121) Accession # BAA05023.1	IEGRMD	Human IgG ₁ (Pro100-Lys330)	
	N-terminus		C-terminus	
N-terminal Sequence Analysis	Ala21 & Thr22			
Structure / Form	Disulfide-linked homodimer			
Predicted Molecular Mass	37.5 kDa (monomer)			

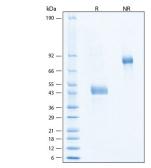
SPECIFICATIONS		
SDS-PAGE	40-50 kDa, under reducing conditions.	
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Endoglin/CD105 Fc Chimera Protein (Catalog # 1320-EN) is immobilized at 2.00 μg/mL (100 μL/well), Recombinant Mouse TGF-β RI/ALK-5 Fc Chimera (Catalog # 587-RIB) binds with an ED ₅₀ of 2.00-15.0 μg/mL.	
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.	
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.	
Formulation	Supplied as a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.	

PREPARATION AND STORAGE		
Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.	
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after opening. 3 months, -20 to -70 °C under sterile conditions after opening. 	



Recombinant Mouse TGF- β RI/ALK-5 Fc Chimera Protein Binding Activity. Measured by its binding ability in a functional ELISA. When Recombinant Mouse Endoglin/CD105 Fc Chimera Protein (Catalog # 1320-EN) is immobilized at 2.00 µg/mL (100 µL/well), Recombinant Mouse TGF- β RI/ALK-5 Fc Chimera Protein (Catalog # 587-RIB) binds with an ED₅₀ of 2.00-15.0 µg/mL.

SDS-PAGE



Recombinant Mouse TGF-beta RI/ALK-5 FC Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse TGF-beta RI/ALK-5 FC Chimera Protein (Catalog # 587-RIB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 40-50 kDa and 80-100 kDa, respectively.

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Recombinant Mouse TGF-β RI/ALK-5 Fc Chimera

Catalog Number: 587-RIB

BACKGROUND

TGF- β RI, also called ALK-5, is an approximately 55 kDa type I transmembrane serine/threonine receptor kinase (1, 2). It contains a cysteine-rich extracellular domain (ECD), a transmembrane helix, and a C-terminal cytoplasmic kinase domain (3). Within the cytoplasmic domain there is also a short, conserved regulatory sequence known as the GS region that is N-terminal to the kinase domain (1). Within the ECD, mouse TGF- β RI shares 98% and 90% amino acid sequence identity with rat and human TGF- β RI, respectively. In the presence of TGF- β , TGF- β RI forms a complex with, and is phosphorylated by, TGF- β RI (1). Phosphorylated TGF-beta RI can then transiently bind and phosphorylate Smad2 and Smad3 (2, 4-6). These phosphorylated Smads form heteromeric complexes with Smad4, translocate to the nucleus, and regulate target gene transcription (2, 4-6). TGF- β RI is likely important during development, since mice deficient for TGF- β RI appears to be involved in proper lymphatic network development (8). Mutations in TGF-beta RI have been identified in pancreatic, colorectal, ovarian, and head and neck cancers (9).

References:

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