Human TGF-β RI/ALK-5 Alexa Fluor® 532-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 854621R

Catalog Number: FAB3025X

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TGF-β RI/ALK-5 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 854621R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TGF-β RI/ALK-5 Leu34-Glu125 Accession # P36897
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 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.*

ELISA	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

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, human TGF-β RI shares 90% and 88% aa sequence identity with mouse and rat TGF-β RI, respectively. In the presence of TGF-β, TGF-β RI forms a complex with, and is phosphorylated by, TGF-β RII (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 die at midgestation with severe defects in vascular development of the yolk sac and placenta, and an absence of circulating red blood cells (7). Furthermore, 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).

PRODUCT SPECIFIC NOTICES

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