

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects human and mouse TGF- $\beta$ RI/ALK-5 in Western blots. In direct ELISAs and Western blots, this antibody shows no cross-reactivity with rrMIS RII, rhTGF- $\beta$ RII, rhTGF- $\beta$ RIIB, or rhTGF- $\beta$ RIII.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 141231
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant mouse TGF- $\beta$ RI/ALK-5 Ala21-Glu121 Accession # BAA05023
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m filtered solution in PBS.

## 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.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 $\mu$ g/mL	Recombinant Mouse TGF- $\beta$ RI/ALK-5 Fc Chimera (Catalog # 587-R1) and Recombinant Human TGF- $\beta$ RI/ALK-5 Fc Chimera (Catalog # 3025-BR)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Most cell types express three sizes of receptors for TGF- $\beta$ . These are designated Type I (53 kDa), Type II (70-85 kDa), and Type III (250-350 kDa). The Type III receptor, a proteoglycan that exists in membrane-bound and soluble forms, binds TGF- $\beta$ 1, TGF- $\beta$ 2, and TGF- $\beta$ 3 but does not appear to be involved in signal transduction. The Type II receptor is a membrane-bound serine/threonine kinase that binds TGF- $\beta$ 1 and TGF- $\beta$ 3 with high affinity and TGF- $\beta$ 2 with a much lower affinity. The Type I receptor, originally known as ALK-5 (Activin receptor-like kinase) is also a membrane-bound serine/threonine kinase that apparently requires the presence of the Type II receptor to bind TGF- $\beta$ . Current evidence suggests that signal transduction requires the cytoplasmic domains of both the Type I and Type II receptors.

### References:

1. Miyazono, K. *et al.* (1994) Adv. In Immunol. **55**:181.
2. Massagué, J. (1998) Ann. Rev. Biochem. **67**:753.