

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived		
	Human TGF- β RII Isoform 2 (Thr23-Asp184) & (Ile24-Asp184) Accession # NP_001020018	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Thr23 & Ile24		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	45 kDa (monomer)		

SPECIFICATIONS

SDS-PAGE	65-75 kDa, reducing conditions
Activity	Measured by its ability to inhibit TGF- β 1 activity on HT-2 mouse T cells. Tsang, M. <i>et al.</i> (1995) Cytokine 7:389. The ED ₅₀ for this effect is 1-3 ng/mL in the presence of 0.1 ng/mL of recombinant human TGF- β 1.
Endotoxin Level	<0.01 EU per 1 μ g of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μ g/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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.

BACKGROUND

Most cell types express three sizes of receptors for TGF- β . 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- β 1, TGF- β 2 and TGF- β 3, and appears to participate in both TGF- β dependent and independent cellular signaling. The Type II receptor, by contrast, is a membrane-bound serine/threonine kinase that binds TGF- β 1 and TGF- β 3 with high affinity, and TGF- β 2 with a much lower affinity. The Type I receptor is also a membrane-bound serine/threonine kinase that requires the presence of the Type II receptor to bind TGF- β . Evidence suggests that signal transduction requires the cytoplasmic domains of both the Type I and Type II receptors. TGF- β receptor II isoform 2 (also TGF- β RII isoform A) is an alternatively spliced variant of the standard Type II TGF- β receptor (or TGF- β RII isoform 1) that possesses a 27 amino acid substitution for Val10 near the N-terminus of the mature protein. Both T β RII and T β RII isoform 2 bind TGF- β 1 and TGF- β 3 with high affinity. However, only TGF- β RII isoform 2 also binds TGF- β 2 with high affinity in the absence of TGF- β RIII. While TGF- β RII is widely expressed on cells, TGF- β RII isoform 2 shows distinct expression pattern mainly associated with bone-related cells, such as osteoblasts and mesenchymal precursor cells. TGF- β RII isoform 2 may play an important role in TGF- β 2 binding and signaling in cells lacking TGF- β RIII.