

TGFB2/TGF-beta RII Protein, Rat (HEK293, Fc)

Cat. No.:	HY-P73430
Synonyms:	TGFR-2; TGF-beta type II receptor; TGF-beta receptor type 2; TbetaR-II
Species:	Rat
Source:	HEK293
Accession:	P38438 (M1-Q166)
Gene ID:	81810
Molecular Weight:	Approximately 54 kDa

PROPERTIES

Biological Activity	Measured by its ability to bind canine TGFB1-His in a functional ELISA.
Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	<p>TGFB2, a transmembrane serine/threonine kinase, partners with the TGF-beta type I serine/threonine kinase receptor, TGFB1, to form the specific receptor for TGF-beta cytokines, including TGFB1, TGFB2, and TGFB3. This receptor complex plays a pivotal role in transducing signals from the cell surface to the cytoplasm, thereby regulating diverse physiological and pathological processes. These include inducing cell cycle arrest in epithelial and hematopoietic cells, controlling mesenchymal cell proliferation and differentiation, influencing wound healing, extracellular matrix production, immunosuppression, and participating in carcinogenesis. The assembly of the receptor complex, comprising two TGFB1 and two TGFB2 molecules symmetrically bound to the cytokine dimer, leads to the constitutive activation of TGFB2 and subsequent phosphorylation and activation of TGFB1. Activated TGFB1 then phosphorylates SMAD2, which dissociates from the receptor and forms a complex with SMAD4. This SMAD2-SMAD4 complex translocates to the nucleus, modulating the transcription of TGF-beta-regulated genes, thereby initiating the canonical SMAD-dependent TGF-beta signaling cascade. Additionally, TGFB2 is involved in non-canonical, SMAD-independent TGF-beta signaling pathways.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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