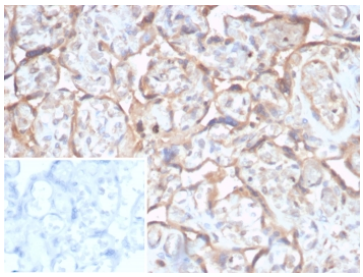
TGF beta Antibody / TGFB 1/2/3 [clone TGFB/7240] (V4620)

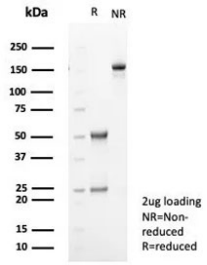
Catalog No.	Formulation	Size
V4620-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4620-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4620SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG
Clone Name	TGFB/7240
Purity	Protein A/G affinity
UniProt	P01137
Localization	Cytoplasm, Extracellular (secreted)
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This TGF beta antibody is available for research use only.



IHC staining of FFPE human placental tissue with TGF beta antibody (clone TGFB/7240). Inset: PBS used in place of primary Ab (secondary Ab negative control). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free TGF beta antibody (clone TGFB/7240) as confirmation of integrity and purity.

Description

TGF beta antibody recognizes Transforming growth factor beta, a multifunctional cytokine encoded by the TGFB gene family that regulates cell proliferation, differentiation, extracellular matrix production, and immune responses. Transforming growth factor beta is a secreted signaling molecule that plays central roles in embryonic development, tissue homeostasis, wound healing, and tumor biology. Members of the TGF beta family include TGFB1, TGFB2, and TGFB3, each contributing to context-dependent signaling in diverse tissues.

TGF beta is synthesized as a precursor protein that undergoes proteolytic processing to generate a mature, biologically active dimer. The mature cytokine binds to type II TGF beta receptors, which recruit and phosphorylate type I receptors, initiating intracellular signaling through SMAD transcription factors. Activated SMAD complexes translocate to the nucleus to regulate gene expression programs involved in cell cycle control, epithelial to mesenchymal transition, and extracellular matrix remodeling. In addition to canonical SMAD signaling, TGF beta can activate non-canonical pathways such as MAPK and PI3K-AKT, broadening its biological impact.

In normal physiology, TGF beta acts as a potent regulator of immune tolerance and tissue repair. It suppresses inflammatory responses, promotes differentiation of regulatory T cells, and contributes to maintenance of epithelial integrity. Dysregulation of TGF beta signaling has been implicated in fibrosis, autoimmune disorders, and cancer progression. In early tumor development, TGF beta can function as a tumor suppressor by inhibiting cell proliferation, whereas in advanced cancers it may promote invasion, metastasis, and immune evasion.

TGF beta is primarily localized to the extracellular space as a secreted cytokine, although intracellular precursor forms may be detected within producing cells. Because of its central role in growth regulation and tumor microenvironment modulation, TGF beta antibody is widely used in research applications to study cytokine signaling, fibrosis pathways, and cancer progression mechanisms. A TGF beta antibody can be used to detect TGFB protein expression in studies focused on immune regulation, tissue remodeling, and oncogenic signaling networks.

TGF beta antibody (clone TGFB/7240) recognizes TGF beta 1, 2 and 3.

Application Notes

Optimal dilution of the TGF beta antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 200-390) from the human TGFB1 was used as the immunogen for the TGF beta antibody.

Storage

Aliquot the TGF beta antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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