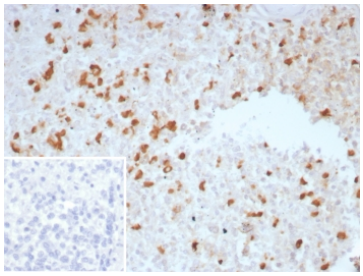
TGFB Antibody / Transforming growth factor beta [clone TGFB/7230] (V4619)

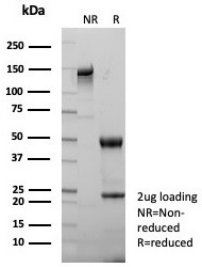
Catalog No.	Formulation	Size
V4619-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4619-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4619SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	TGFB/7230
Purity	Protein A/G affinity
UniProt	P01137
Localization	Cytoplasm, Extracellular (secreted)
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This TGFB/Transforming growth factor beta antibody is available for research use only.



Immunohistochemistry analysis of TGFB / Transforming growth factor beta antibody in human spleen tissue (clone TGFB/7230). FFPE human spleen sections show scattered HRP-DAB brown cytoplasmic staining in immune cell populations within the splenic parenchyma, while surrounding stromal elements display minimal background signal. The distribution pattern is consistent with cytokine expression in immune regulatory cells. The inset image shows the PBS secondary-only negative control, demonstrating absence of specific staining. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to antibody incubation.



SDS-PAGE analysis of purified, BSA-free TGFB antibody (clone TGFB/7230) as confirmation of integrity and purity.

Description

TGFB antibody, also known as Transforming growth factor beta antibody, recognizes a secreted cytokine belonging to the TGF beta superfamily that regulates cell proliferation, differentiation, immune modulation, and extracellular matrix remodeling. Transforming growth factor beta, encoded by TGFB genes including TGFB1, TGFB2, and TGFB3, is synthesized as a precursor protein that undergoes proteolytic processing to generate a mature, biologically active homodimer. This cytokine is widely expressed and functions as a critical regulator of tissue homeostasis, development, and repair.

Transforming growth factor beta is secreted as part of a latent complex that requires activation before receptor engagement. Once activated, TGF beta binds to type II TGF beta receptors, which recruit and phosphorylate type I receptors. This receptor complex initiates intracellular signaling primarily through SMAD transcription factors. Phosphorylated SMAD proteins form complexes that translocate to the nucleus and regulate transcription of genes involved in cell cycle arrest, differentiation, extracellular matrix production, and immune regulation. In addition to canonical SMAD signaling, TGF beta can activate non canonical pathways including MAPK, PI3K-AKT, and Rho like GTPase signaling cascades.

In normal physiology, Transforming growth factor beta plays a central role in embryogenesis, angiogenesis, and wound healing. It maintains immune tolerance by promoting regulatory T cell differentiation and suppressing inflammatory responses. Dysregulated TGFB signaling has been implicated in fibrotic diseases, chronic inflammation, and tumor progression. In early stages of tumorigenesis, TGF beta often acts as a tumor suppressor by inhibiting epithelial cell proliferation. However, in advanced cancers, it can promote epithelial to mesenchymal transition, invasion, metastasis, and immune evasion within the tumor microenvironment.

Because of its pleiotropic biological functions, TGFB antibody is widely used in research investigating fibrosis pathways, immune modulation, and cancer biology. Detection of Transforming growth factor beta expression supports studies focused on cytokine signaling networks and tissue remodeling processes. A TGFB antibody is suitable for research applications aimed at evaluating TGFB expression in normal and disease related contexts.

TGFB/Transforming growth factor beta antibody (clone TGFB/7230) recognizes TGF beta 1, 2 and 3.

Application Notes

Optimal dilution of the TGFB/Transforming growth factor beta antibody should be determined by the researcher.

Immunogen

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

Storage

Aliquot the TGFB/Transforming growth factor beta antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.