

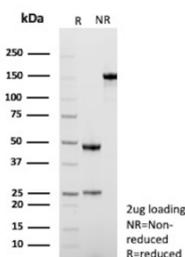
## Transforming growth factor beta 1 Antibody / TGFB1 [clone rTGFB17] (V6012)

Catalog No.	Formulation	Size
V6012-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6012-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6012SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant **MOUSE MONOCLONAL**

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<b>Species Reactivity</b>	Human
<b>Format</b>	Purified
<b>Host</b>	Mouse
<b>Clonality</b>	Recombinant Mouse Monoclonal
<b>Isotype</b>	Mouse IgG2b, kappa
<b>Clone Name</b>	rTGFB17
<b>UniProt</b>	P01137
<b>Localization</b>	Extracellular matrix, Extracellular space, Secreted
<b>Applications</b>	Immunohistochemistry (FFPE) : 1-2ug/ml
<b>Limitations</b>	This Transforming growth factor beta 1/TGFB1 antibody is available for research use only.



SDS-PAGE Analysis of Purified Transforming growth factor beta 1/TGFB1 antibody (clone rTGFB17). Confirmation of Purity and Integrity of Antibody.

### Description

Transforming growth factor beta 1 antibody, also known as TGFB1 antibody, recognizes Transforming growth factor beta 1, a secreted cytokine encoded by the TGFB1 gene and a central member of the TGF beta superfamily. Transforming growth factor beta 1 is synthesized as a precursor protein that undergoes proteolytic processing to generate a mature, biologically active homodimer. This cytokine is broadly expressed in immune cells, epithelial cells, endothelial cells, and

stromal tissues, where it regulates cell proliferation, differentiation, apoptosis, and extracellular matrix production. The recombinant mouse monoclonal antibody clone rTGFB17 is designed to detect TGFB1 in research applications focused on cytokine signaling and tissue remodeling.

Transforming growth factor beta 1 is secreted in a latent complex that requires activation prior to receptor engagement. Once activated, TGFB1 binds to the type II TGF beta receptor, which recruits and phosphorylates the type I receptor, initiating intracellular signaling primarily through SMAD2 and SMAD3. These phosphorylated SMAD proteins associate with SMAD4 and translocate to the nucleus to regulate transcription of genes involved in immune modulation, fibrosis, and cellular differentiation. In addition to canonical SMAD dependent signaling, TGFB1 can activate non canonical pathways including MAPK and PI3K-AKT signaling cascades, expanding its functional impact across multiple biological systems.

Physiologically, Transforming growth factor beta 1 plays critical roles in embryonic development, angiogenesis, and maintenance of immune tolerance. It promotes differentiation of regulatory T cells and suppresses excessive inflammatory responses. During wound healing, TGFB1 stimulates fibroblast activation and collagen deposition, contributing to tissue repair. Dysregulation of TGFB1 signaling has been strongly linked to fibrotic diseases of the liver, lung, and kidney, as well as autoimmune disorders and cancer progression. In early stages of tumorigenesis, TGFB1 may act as a growth inhibitor, whereas in advanced malignancies it can promote epithelial to mesenchymal transition, invasion, metastasis, and immune evasion within the tumor microenvironment.

Transforming growth factor beta 1 is primarily localized to the extracellular space as a secreted cytokine, although intracellular precursor forms may be detectable in producing cells. Transforming growth factor beta 1 antibody, including clone rTGFB17, is suitable for research applications aimed at evaluating TGFB1 expression in normal physiology and disease related contexts.

## Application Notes

1. Optimal dilution of the Transforming growth factor beta 1/TGFB1 antibody should be determined by the researcher.
2. This Transforming growth factor beta 1/TGFB1 antibody is recombinantly produced by expression in CHO cells.

## Immunogen

Prokaryotic recombinant protein corresponding to the full length mature transforming growth factor beta1 molecule was used as the immunogen for the Transforming growth factor beta 1/TGFB1 antibody.

## Storage

Transforming growth factor beta 1/TGFB1 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.