



# Anti-TGFB1 monoclonal antibody, clone 0006 (DCABY-4014)

This product is for research use only and is not intended for diagnostic use.

## PRODUCT INFORMATION

### Antigen Description

Transforming Growth Factor Beta 1, 2, and 3 (TGF-beta 1, TGF-beta 2, and TGF-beta 3) are highly pleiotropic cytokines that virtually all cell types secrete. TGF-beta molecules are proposed to act as cellular switches that regulate processes such as immune function, proliferation, and epithelial-mesenchymal transition. Targeted deletions of these genes in mice show that each TGF-beta isoform has some non-redundant functions: TGF-beta 1 is involved in hematopoiesis and endothelial differentiation; TGF-beta 2 affects development of cardiac, lung, craniofacial, limb, eye, ear, and urogenital systems; and TGF-beta 3 influences palatogenesis and pulmonary development. The full range of in vitro biological activities of TGF-beta 5 has not yet been explored. However, TGF-beta 1, TGF-beta 2, TGF-beta 3, and TGF-beta 5 have been found to be largely interchangeable in an inhibitory bioassay, and it is anticipated that TGF-beta 5 will show a spectrum of activities similar to the other TGF-beta family members. To date, the production of TGF-beta 5 has only been demonstrated in *Xenopus*. TGF-beta ligands are initially synthesized as precursor proteins that undergo proteolytic cleavage. The mature segments form active ligand dimers via a disulfide-rich core consisting of the characteristic 'cysteine knot'. TGF-beta signaling begins with binding to a complex of the accessory receptor betaglycan (also known as TGF-beta RIII) and a type II serine/threonine kinase receptor termed TGF-beta RII. This receptor then phosphorylates and activates a type I serine/threonine kinase receptor, either ALK-1 or TGF-beta RI (also called ALK-5). The activated type I receptor phosphorylates and activates Smad proteins that regulate transcription. Use of other signaling pathways that are Smad-independent allows for distinct actions observed in response to TGF-beta in different contexts.

<b>Specificity</b>	Detects human LAP(TGF-beta 1) and Latent TGF-beta 1 in ELISAs.
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human Latent TGF-beta 1. Leu30-Ser390 Accession Number P01137
<b>Isotype</b>	IgG1

<b>Source/Host</b>	Mouse
<b>Species Reactivity</b>	Human
<b>Clone</b>	0006
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Conjugate</b>	Unconjugated
<b>Applications</b>	ELISA Capture (Matched Pair)
<b>Format</b>	Liquid
<b>Size</b>	500 µg
<b>Buffer</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
<b>Preservative</b>	None
<b>Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month from date of receipt, 2 to 8 °C, reconstituted. 6 months from date of receipt, -20 to -70 °C, reconstituted.

## GENE INFORMATION

<b>Gene Name</b>	<a href="#">TGFB1 transforming growth factor, beta 1 [ Homo sapiens (human) ]</a>
<b>Official Symbol</b>	TGFB1
<b>Synonyms</b>	TGFB1; transforming growth factor, beta 1; CED; LAP; DPD1; TGFB; TGFbeta; transforming growth factor beta-1; TGF-beta-1; latency-associated peptide; prepro-transforming growth factor beta-1;
<b>Entrez Gene ID</b>	<a href="#">7040</a>
<b>Protein Refseq</b>	<a href="#">NP_000651</a>
<b>UniProt ID</b>	<a href="#">P01137</a>
<b>Chromosome Location</b>	19q13.1
<b>Pathway</b>	ACE Inhibitor Pathway; ALK1 signaling events; Adipogenesis; Amoebiasis; Cardiac Progenitor Differentiation; Cell cycle; Chagas disease (American trypanosomiasis); Chronic myeloid leukemia;

**Function**

antigen binding; cytokine activity; enzyme binding; glycoprotein binding; growth factor activity; protein N-terminus binding; protein binding; protein heterodimerization activity; protein homodimerization activity; type II transforming growth factor beta

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