



# Anti-TGFB1 polyclonal antibody [Biotin] (DPABY-373)

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.

### Specificity

Detects human TGF-beta 1 in ELISAs and Western blots. In sandwich immunoassays, when used in combination with the rhTGF-beta sRII/Fc chimera, approximately 15% cross-reactivity with recombinant human (rh) Latent TGF-beta 1 is observed, 1% cross-reactivity with rhTGF-beta 1.2 is observed, and 3% cross-reactivity with recombinant amphibian (ra) TGF-beta 5 is observed. When used in combination with the monoclonal capture antibody, approximately 5% cross-reactivity with TGF-beta 1.2 is observed and 1% cross-reactivity with rhTGF-beta 2, recombinant chicken TGF-beta 3, and raTGF-beta 5 is observed.

<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human TGF-beta 1
<b>Isotype</b>	IgY
<b>Source/Host</b>	Chicken
<b>Species Reactivity</b>	Human
<b>Purification</b>	Antigen Affinity-purified from egg yolks
<b>Conjugate</b>	Biotin
<b>Applications</b>	Western Blot, ELISA Detection (Matched Pair)
<b>Format</b>	Liquid
<b>Size</b>	50 µg
<b>Buffer</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.
<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, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

## 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;

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**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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