



# Anti-TGF-beta 1, 2, 3 monoclonal antibody, clone 2E22 (DCABY-3908)

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

## PRODUCT INFORMATION

<b>Specificity</b>	Detects bovine, chicken, mouse, and human TGF-beta in ELISAs and Western blots. It recognizes human TGF-beta 1, TGF-beta 2, and TGF-beta 3.
<b>Immunogen</b>	Bovine bone-derived TGF-beta 1 and TGF-beta 2
<b>Isotype</b>	IgG1
<b>Source/Host</b>	Mouse
<b>Species Reactivity</b>	Bovine
<b>Clone</b>	2E22
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Conjugate</b>	Unconjugated
<b>Applications</b>	Western Blot, Immunocytochemistry, Immunohistochemistry, ELISA Capture (Matched Pair), Neutralization, Binding Inhibition
<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.

## BACKGROUND

### Introduction

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.

### Keywords

TGF-beta 1, 2, 3; Transforming growth factor beta

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## GENE INFORMATION

### Entrez Gene ID

[7040](#)

### UniProt ID

[P01137](#)

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