

**Anti-TGFBR1 Antibody**  
Catalog # ABO11040**Specification****Anti-TGFBR1 Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P36897</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for TGF-beta receptor type-1(TGFBR1) detection. Tested with WB, IHC-P in Human;Rat;Mouse.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-TGFBR1 Antibody - Additional Information**

**Gene ID** 7046

**Other Names**

TGF-beta receptor type-1, TGFR-1, 2.7.11.30, Activin A receptor type II-like protein kinase of 53kD, Activin receptor-like kinase 5, ALK-5, ALK5, Serine/threonine-protein kinase receptor R4, SKR4, TGF-beta type I receptor, Transforming growth factor-beta receptor type I, TGF-beta receptor type I, TbetaR-I, TGFBR1, ALK5, SKR4

**Calculated MW**

55960 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat  
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

**Subcellular Localization**

Cell membrane; Single-pass type I membrane protein. Cell junction, tight junction.

**Tissue Specificity**

Found in all tissues examined, most abundant in placenta and least abundant in brain and heart.

**Protein Name**

TGF-beta receptor type-1(TGFR-1)

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence in the middle region of human TGFBR1

(281-295aa DYHEHGSLFDYLNRY), identical to the related rat and mouse sequences.

#### **Purification**

Immunogen affinity purified.

#### **Cross Reactivity**

No cross reactivity with other proteins

#### **Storage**

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

#### **Sequence Similarities**

Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. TGFβ receptor subfamily.

### **Anti-TGFBR1 Antibody - Protein Information**

**Name** TGFBR1

**Synonyms** ALK5, SKR4

#### **Function**

Transmembrane serine/threonine kinase forming with the TGF-β type II serine/threonine kinase receptor, TGFBR2, the non-promiscuous receptor for the TGF-β cytokines TGFβ1, TGFβ2 and TGFβ3. Transduces the TGFβ1, TGFβ2 and TGFβ3 signal from the cell surface to the cytoplasm and is thus regulating a plethora of physiological and pathological processes including cell cycle arrest in epithelial and hematopoietic cells, control of mesenchymal cell proliferation and differentiation, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. The formation of the receptor complex composed of 2 TGFBR1 and 2 TGFBR2 molecules symmetrically bound to the cytokine dimer results in the phosphorylation and the activation of TGFBR1 by the constitutively active TGFBR2. Activated TGFBR1 phosphorylates SMAD2 which dissociates from the receptor and interacts with SMAD4. The SMAD2-SMAD4 complex is subsequently translocated to the nucleus where it modulates the transcription of the TGF-β-regulated genes. This constitutes the canonical SMAD-dependent TGF-β signaling cascade. Also involved in non-canonical, SMAD-independent TGF-β signaling pathways. For instance, TGFBR1 induces TRAF6 autoubiquitination which in turn results in MAP3K7 ubiquitination and activation to trigger apoptosis. Also regulates epithelial to mesenchymal transition through a SMAD-independent signaling pathway through PARD6A phosphorylation and activation.

#### **Cellular Location**

Cell membrane; Single-pass type I membrane protein. Cell junction, tight junction. Cell surface. Membrane raft

#### **Tissue Location**

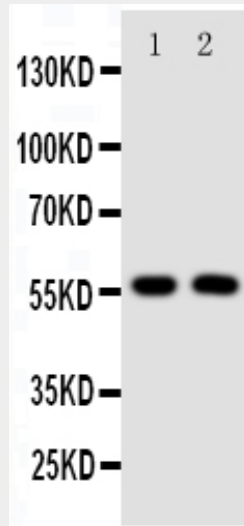
Found in all tissues examined, most abundant in placenta and least abundant in brain and heart. Expressed in a variety of cancer cell lines (PubMed:25893292).

### **Anti-TGFBR1 Antibody - Protocols**

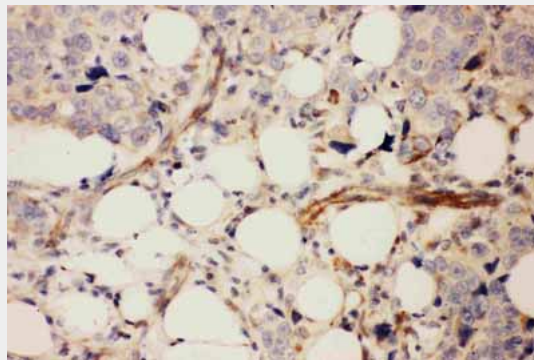
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-TGFBR1 Antibody - Images



Anti-TGFBR1 antibody, ABO11040, Western blotting All lanes: Anti TGFBR1 (ABO11040) at 0.5ug/ml Lane 1: Human Placenta Tissue Lysate at 50ug Lane 2: HELA Whole Cell Lysate at 40ug Predicted bind size: 56KD Observed bind size: 56KD



Anti-TGFBR1 antibody, ABO11040, IHC(P) IHC(P): Human Mammary Cancer Tissue

### Anti-TGFBR1 Antibody - Background

TGFBR1, Transforming growth factor, beta receptor I is a TGF beta receptor. TGFBR1 is its human gene. The protein encoded by this gene forms a heteromeric complex with type II TGF-beta receptors when bound to TGF-beta, transducing the TGF-beta signal from the cell surface to the cytoplasm. The encoded protein is a serine/threonine protein kinase. Mutations in this gene have been associated with Loeys-Dietz aortic aneurysm syndrome (LDAS). TGFBR1 regulates cell cycle progression by a unique signaling mechanism that involves its binding to TGFBR2 and activation of TGFBR1. Both are transmembrane serine/threonine receptor kinases. The TGFBR1 receptor may be inactivated in many of the cases of human tumor cells refractory to TGF-beta-mediated cell cycle

arrest. Vellucci and Reiss(1997) reported that the TGFBR1 gene is approximately 31 kb long and contains 9 exons. The organization of the segment of the gene that encodes the C-terminal portion of the serine/threonine kinase domain appears to be highly conserved among members of the gene family.