10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-TGFBR1 Picoband Antibody

Catalog # ABO12514

Specification

Anti-TGFBR1 Picoband Antibody - Product Information

Application	**WB**
Primary Accession	P36897
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for TGF-beta receptor type-1(TGFBR1) detection. Tested with WB in Human.

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

Anti-TGFBR1 Picoband 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
Western blot, 0.1-0.5 µg/ml, Human

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

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human TGFBR1 (149-186aa HNRTVIHHRVPNEEDPSLDRPFISEGTTLKDLIYDMTT), identical to the related mouse and rat

sequences.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, 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.**

Anti-TGFBR1 Picoband Antibody - Protein Information

Name TGFBR1

Synonyms ALK5, SKR4

Function
Transmembrane serine/threonine kinase forming with the TGF- beta type II serine/threonine kinase receptor, TGFBR2, the non- promiscuous receptor for the TGF-beta cytokines TGFB1, TGFB2 and TGFB3. Transduces the TGFB1, TGFB2 and TGFB3 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 (PubMed:33914044). 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-beta-regulated genes. This constitutes the canonical SMAD-dependent TGF-beta signaling cascade. Also involved in non-canonical, SMAD-independent TGF-beta 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).

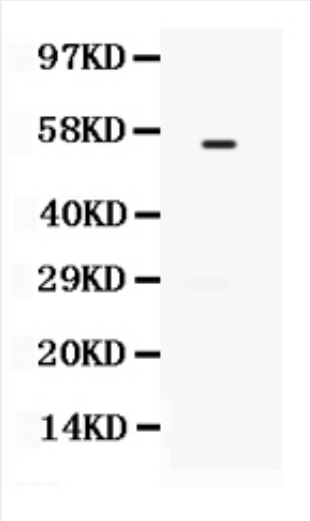
Anti-TGFBR1 Picoband Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot

- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-TGFBR1 Picoband Antibody - Images



Anti- TGFBR1 Picoband antibody, ABO12514, Western blottingAll lanes: Anti TGFBR1 (ABO12514) at 0.5ug/mlWB: HELA Whole Cell Lysate at 40ugPredicted bind size: 55KDObserved bind size: 55KD

Anti-TGFBR1 Picoband Antibody - Background

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. Mutations in this gene have been associated with Loeys-Dietz aortic aneurysm syndrome (LDAS). TGFB1 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 TGFB-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.