

# Anti-TGFBR1 Picoband Antibody

Catalog # ABO11719

## Product Information

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| <b>Application</b>       | WB                                                                                                                |
| <b>Primary Accession</b> | <a href="#">P36897</a>                                                                                            |
| <b>Host</b>              | Rabbit                                                                                                            |
| <b>Reactivity</b>        | Human, Mouse, Rat                                                                                                 |
| <b>Clonality</b>         | Polyclonal                                                                                                        |
| <b>Format</b>            | Lyophilized                                                                                                       |
| <b>Description</b>       | Rabbit IgG polyclonal antibody for TGF-beta receptor type-1(TGFBR1) detection. Tested with WB in Human;Mouse;Rat. |
| <b>Reconstitution</b>    | Add 0.2ml of distilled water will yield a concentration of 500ug/ml.                                              |

## Additional Information

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| <b>Gene ID</b>                  | 7046                                                                                                                                                                                                                                                                                                                                   |
| <b>Other Names</b>              | 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 |
| <b>Calculated MW</b>            | 55960                                                                                                                                                                                                                                                                                                                                  |
| <b>Application Details</b>      | Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat                                                                                                                                                                                                                                                                                         |
| <b>Subcellular Localization</b> | Cell membrane; Single-pass type I membrane protein. Cell junction, tight junction.                                                                                                                                                                                                                                                     |
| <b>Tissue Specificity</b>       | Found in all tissues examined, most abundant in placenta and least abundant in brain and heart.                                                                                                                                                                                                                                        |
| <b>Source</b>                   | Eukaryota                                                                                                                                                                                                                                                                                                                              |
| <b>Protein Name</b>             | TGF-beta receptor type-1                                                                                                                                                                                                                                                                                                               |
| <b>Contents</b>                 | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg NaN <sub>3</sub> .                                                                                                                                                                                                                             |
| <b>Immunogen</b>                | 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.                                                                                                                                                |
| <b>Purification</b>             | Immunogen affinity purified.                                                                                                                                                                                                                                                                                                           |

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| <b>Cross Reactivity</b> | No cross reactivity with other proteins.                                                                                                                                              |
| <b>Storage</b>          | 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. |

## Protein Information

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|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>              | TGFBR1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Synonyms</b>          | ALK5, SKR4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Function</b>          | 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: <a href="#">33914044</a> ). 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. |
| <b>Cellular Location</b> | Cell membrane; Single-pass type I membrane protein. Cell junction, tight junction. Cell surface. Membrane raft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Tissue Location</b>   | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Background

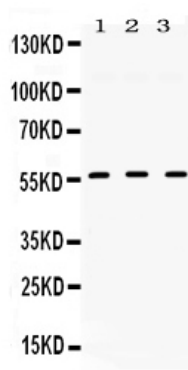
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Transforming growth factor, beta receptor I is a TGF beta receptor. TGFBR1 is its human gene. The protein encoded by this gene forms a heteromeric complex with type II TGF-beta receptors when bound to TGF-beta, transducing the TGF-beta signal from 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.

## Images

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Western blot analysis of TGFBR1 expression in rat cardiac muscle extract (lane 1), mouse liver extract (lane 2) and HELA whole cell lysates (lane 3). TGFBR1 at 56KD was



detected using rabbit anti- TGFBR1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11719) at 0.5 µg/mL. The blot was developed using chemiluminescence (ECL) method .

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