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# Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11)

**Catalog # ABO15055**

## Specification

### Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) - Product Information

| | |
|---|---|
| Application | **WB, IHC, IF, ICC, FC** |
| Primary Accession | P37173 |
| Host | **Mouse** |
| Isotype | **Mouse IgG2b** |
| Reactivity | **Human** |
| Clonality | **Monoclonal** |
| Format | **Lyophilized** |

**Description**
Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human.

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

### Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) - Additional Information

**Gene ID** 7048

**Other Names**
TGF-beta receptor type-2, TGFR-2, 2.7.11.30, TGF-beta type II receptor, Transforming growth factor-beta receptor type II, TGF-beta receptor type II, TbetaR-II, TGFBR2

**Calculated MW**
70-85 kDa KDa

**Application Details**
Western blot, 0.25-0.5 µg/ml, Human<br> Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human<br> Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human<br> Flow Cytometry, 1-3 µg/1x10^6 cells, Human<br>

**Contents**
Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.

**Immunogen**
A synthetic peptide corresponding to a sequence at the N-terminus of human TGFBR2, different from the related mouse sequence by five amino acids, and from the related rat sequence by eight amino acids.

**Purification**
Immunogen affinity purified.

| | |
|---|---|
| Storage | **Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored** |

**frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.**

## Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) - Protein Information

**Name** TGFBR2

**Function**
Transmembrane serine/threonine kinase forming with the TGF- beta type I serine/threonine kinase receptor, TGFBR1, 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 thus regulates 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 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.

**Cellular Location**
Cell membrane; Single-pass type I membrane protein. Membrane raft

## Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) - 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-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) - Images

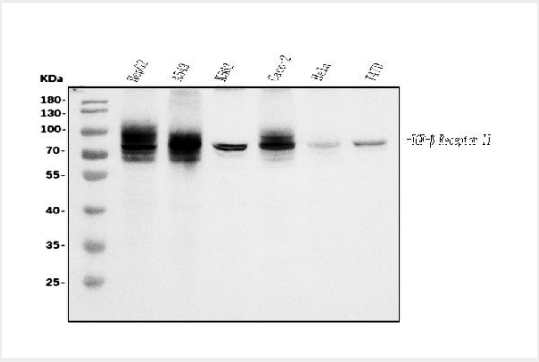


Figure 1. Western blot analysis of TGFBR2 using anti-TGFBR2 antibody (M00759-2).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions.
Lane 1: human HepG2 whole cell lysates,
Lane 2: human A549 whole cell lysates,
Lane 3: human K562 whole cell lysates,
Lane 4: human Caco-2 whole cell lysates,
Lane 5: human Hela whole cell lysates,
Lane 6: human T-47D whole cell lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-TGFBR2 antigen affinity purified monoclonal antibody (Catalog # M00759-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for TGFBR2 at approximately 70-85KD. The expected band size for TGFBR2 is at 70-85KD.

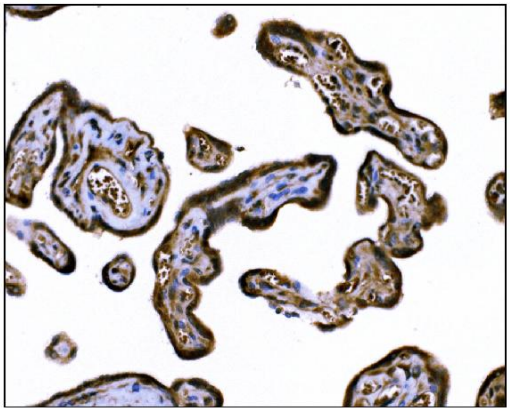

Figure 2. IHC analysis of TGFBR2 using anti-TGFBR2 antibody (M00759-2).
TGFBR2 was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-TGFBR2 Antibody (M00759-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

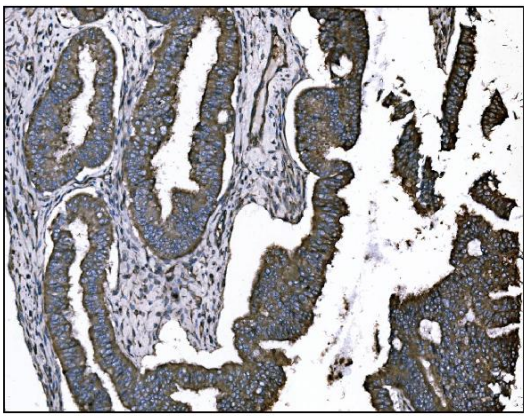

Figure 3. IHC analysis of TGFBR2 using anti-TGFBR2 antibody (M00759-2).
TGFBR2 was detected in paraffin-embedded section of human cervical intraepithelial neoplasia

tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-TGFBR2 Antibody (M00759-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

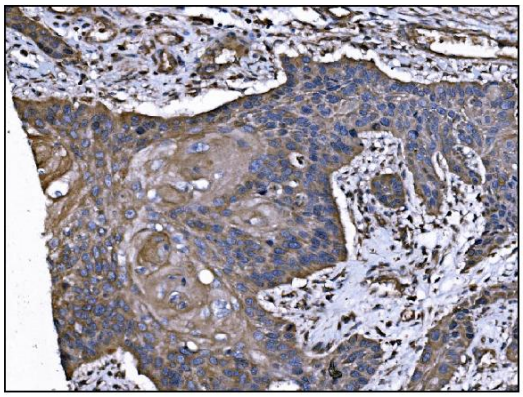

Figure 4. IHC analysis of TGFBR2 using anti-TGFBR2 antibody (M00759-2).
TGFBR2 was detected in paraffin-embedded section of human esophageal squamous carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-TGFBR2 Antibody (M00759-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

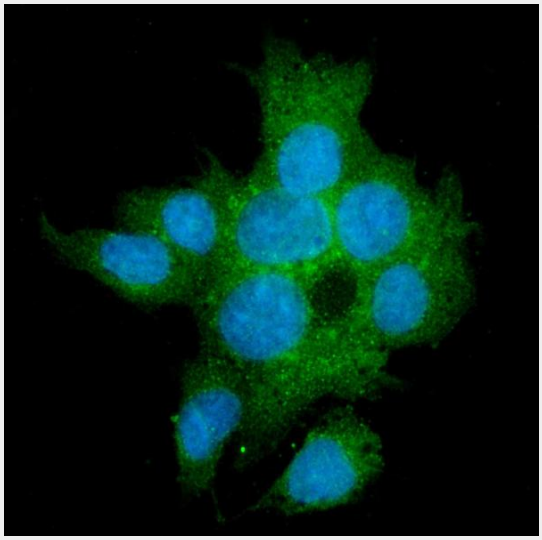

Figure 5. IF analysis of TGFBR2 using anti-TGFBR2 antibody (M00179-1).
TGFBR2 was detected in immunocytochemical section of HepG2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-TGFBR2 Antibody (M00179-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

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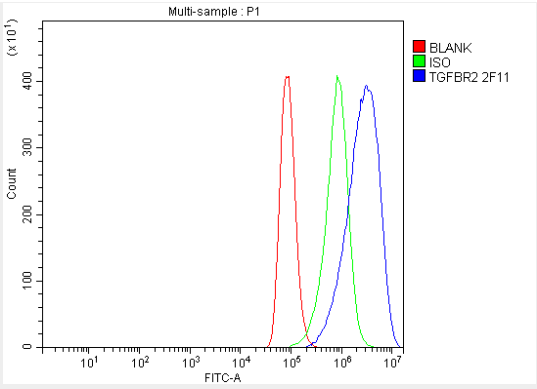


Figure 6. Flow Cytometry analysis of A549 cells using anti-TGFBR2 antibody (M00759-2). Overlay histogram showing A549 cells stained with M00759-2 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-TGFBR2 Antibody (M00759-2, 1 µg/1x10$^6$ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10$^6$ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10$^6$) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

**Anti-TGFBR2 Antibody Picoband™ (monoclonal, 2F11) - Background**

TGFBR2 (transforming growth factor, beta receptor II (70/80kDa)), also known as TGF-beta receptor type-2, TGFR-2, TGF-beta type II receptor, Transforming growth factor-beta receptor type II (TGF-beta receptor type II, TbetaR-II), is a member of the Ser/Thr protein kinase family and the TGFB receptor subfamily. A TGFBR2 cDNA encodes a deduced 565-amino acid protein with a calculated molecular mass of approximately 60 kD in length. The encoded protein is a transmembrane protein that has a protein kinase domain, forms a heterodimeric complex with another receptor protein, and binds TGF-beta. This receptor/ligand complex phosphorylates proteins, which then enter the nucleus and regulate the transcription of a subset of genes related to cell proliferation. Mutations in this gene have been associated with Marfan syndrome, Loeys-Deitz aortic aneurysm syndrome, Osler-Weber-Rendu syndrome, and the development of various types of tumors. Alternatively spliced transcript variants encoding different informs have been characterized.