abcam

ab78419

Anti-TGF beta Receptor II antibody [MM0056-4F14] - BSA and Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human TGFBR2. Database link P37173
Carrier free	Yes
Clone number	MM0056-4F14
Purification technique	Affinity purification Protein G
Specificity	ab78419 detects TGF beta Receptor II. No cross reactivity was found to rTGF beta Receptor III.
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The IgG fraction of culture supernatant was purified by Protein G affinity chromatography and lyophilized from a 0.2 µm filtered solution inphosphate buffered saline (PBS).

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information 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. Isoform 1. Has transforming growth factor beta-activated receptor activity. Isoform 2. Has transforming growth factor beta-activated receptor activity. Isoform 3. Binds TGFB1, TGFB2 and TGFB3 in the picomolar affinity range without the participation of additional receptors. Blocks activation of SMAD2 and SMAD3 by TGFB1.

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

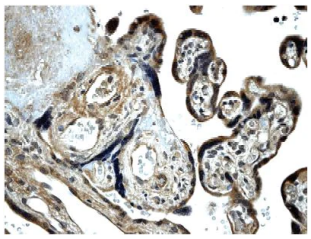
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

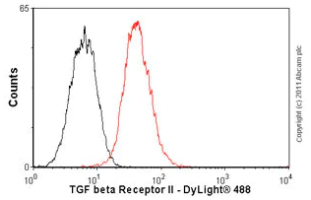
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGF beta Receptor II antibody [MM0056-4F14] - BSA and Azide free (ab78419)

TGF beta Receptor II Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-TGF beta Receptor II antibody

ab78419 at 1/200 dilution, staining TGF beta Receptor II in human placental tissue section by Immunohistochemistry (Formalin/PFA fixed paraffin-embedded sections).



Flow Cytometry - Anti-TGF beta Receptor II antibody [MM0056-4F14] - BSA and Azide free (ab78419)

TGF beta Receptor II Flow Cytometry staining using mouse Anti-TGF beta Receptor II antibody

Overlay histogram showing HepG2 cells stained with ab78419 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab78419, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.

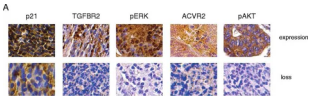


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Immunohistochemistry - Anti-TGF beta Receptor II antibody [MM0056-4F14] - BSA and Azide free (ab78419)

TGF beta Receptor II Immunohistochemistry staining using mouse Anti-TGF beta Receptor II antibody

Immunohistochemistry using Anti-TGF beta Receptor II antibody [MM0056-4F14] - BSA and Azide free, ab78419. Publication image from Eckmann, L. et al., 2015, Mol Cancer, 26497569. Legend direct from paper.

Loss of nuclear p21 is indicative of activin/pAkt activation, while nuclear p21 is associated with TGFβ/pERK activation in primary colon cancer tissues. In human colon cancer tissue, loss of nuclear p21 is associated with ACVR2A/pAkt expression while nuclear p21 is associated with TGFBR2/pERK expression. A total of 110 primary human colon cancer tissues were stained for ACVR2A/TGFBR2/p21/pERK/pAkt expression and pathway expression associations were determined. a Representative colon cancer tissues showing nuclear (p21/pERK) or cytosolic (TGFBR2/ACVR2A/pAkt) expression (upper panel) versus loss (lower panel). b Schematic of colon cancer signaling pathways based on signal component staining. Dominant pathways with p21 expression as diverging point drawn in red (p21 loss/ACVR2A+/pAkt + and p21 expression/TGFBR2+/pERK+, respectively). For statistical analysis, see Table 1

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