abcam

Product datasheet

Anti-TGF beta Receptor I antibody [EPR20923-13] ab235578

KO VALIDATED Recombinant RabMAb

1 References 6 Images

Overview

Product name	Anti-TGF beta Receptor I antibody [EPR20923-13]
Description	Rabbit monoclonal [EPR20923-13] to TGF beta Receptor I
Host species	Rabbit
Tested applications	**Suitable for:** IP, WB **Unsuitable for:** Flow Cyt (Intra),ICC/IF or IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: MCF7, MCF7 transfected with 100nM siRNA specifically targeting TGF receptor I, MCF7 transfected with 25nM siRNA specifically targeting TGF receptor I, THP-1, RAW264.7, 2.4G2, C6, U-87 MG, SH-SY5Y, Neuro-2a lysates. IP: MCF7 cells.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.01% Sodium azide Constituents: 59.94% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR20923-13
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab235578 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		1/30.
WB		1/1000. Predicted molecular weight: 55 kDa.

Application notes Is unsuitable for Flow Cyt (Intra),ICC/IF or IHC-P.

Target

Function On ligand binding, forms a receptor complex consisting of two type II and two type I transmembrane serine/threonine kinases. Type II receptors phosphorylate and activate type I receptors which autophosphorylate, then bind and activate SMAD transcriptional regulators. Receptor for TGF-beta.

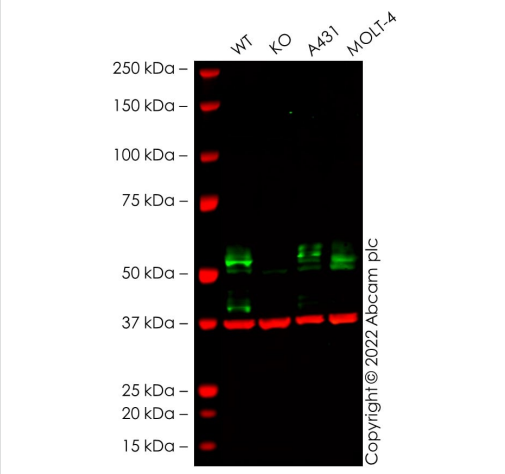
Tissue specificity Found in all tissues examined, most abundant in placenta and least abundant in brain and heart.

Involvement in disease Defects in TGFBR1 are the cause of Loeys-Dietz syndrome type 1A (LDS1A) [MIM:609192]; also known as Furlong syndrome or Loeys-Dietz aortic aneurysm syndrome (LDAS). LDS1 is an aortic aneurysm syndrome with widespread systemic involvement. The disorder is characterized by arterial tortuosity and aneurysms, craniosynostosis, hypertelorism, and bifid uvula or cleft palate. Other findings include exotropy, micrognathia and retrognathia, structural brain abnormalities, intellectual deficit, congenital heart disease, translucent skin, joint hyperlaxity and aneurysm with dissection throughout the arterial tree.
Defects in TGFBR1 are the cause of Loeys-Dietz syndrome type 2A (LDS2A) [MIM:608967]. LDS2 is an aortic aneurysm syndrome with widespread systemic involvement. Physical findings include prominent joint laxity, easy bruising, wide and atrophic scars, velvety and translucent skin with easily visible veins, spontaneous rupture of the spleen or bowel, diffuse arterial aneurysms and dissections, and catastrophic complications of pregnancy, including rupture of the gravid uterus and the arteries, either during pregnancy or in the immediate postpartum period. LDS2 is characterized by the absence of craniofacial abnormalities with the exception of bifid uvula that can be present in some patients.
Defects in TGFBR1 are the cause of aortic aneurysm familial thoracic type 5 (AAT5) [MIM:608967]. Aneurysms and dissections of the aorta usually result from degenerative changes in the aortic wall. Thoracic aortic aneurysms and dissections are primarily associated with a characteristic histologic appearance known as 'medial necrosis' in which there is degeneration and fragmentation of elastic fibers, loss of smooth muscle cells, and an accumulation of basophilic ground substance.

Sequence similarities Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. TGFB receptor subfamily.
Contains 1 GS domain.

	Contains 1 protein kinase domain.
Post-translational modifications	Phosphorylated at basal levels in the absence of ligand binding. Activated by multiple phosphorylation, mainly in the GS region.
Cellular localization	Membrane.

Images



Western blot - Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578)

All lanes : Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578) at 1/1000 dilution

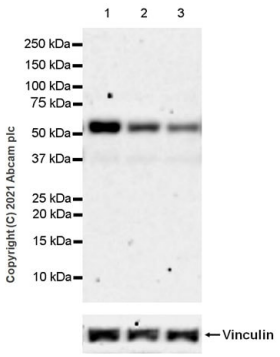
Lane 1 : Wild-type A549 cell lysate
Lane 2 : TGFBR1 knockout A549 cell lysate
Lane 3 : A431 cell lysate
Lane 4 : MOLT-4 cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 55 kDa
Observed band size: 40,55 kDa

False colour image of Western blot: Anti-TGF beta Receptor I antibody [EPR20923-13] staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (**ab8245**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab235578 was shown to bind specifically to TGF beta Receptor I. A band was observed at 40/55 kDa in wild-type A549 cell lysates with no signal observed at this size in TGFBR1 knockout cell line **ab277894** (knockout cell lysate **ab283082**). To generate this image, wild-type and TGFBR1 knockout A549 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) at 1/20000 dilution.



Western blot - Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578)

All lanes : Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578) at 1/1000 dilution

Lane 1 : MCF7 (human breast adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate
Lane 2 : MCF7 transfected with 25nM siRNA specifically targeti TGF receptor I whole cell lysate
Lane 3 : MCF7 transfected with 100nM siRNA specifically targeti TGF receptor I whole cell lysate

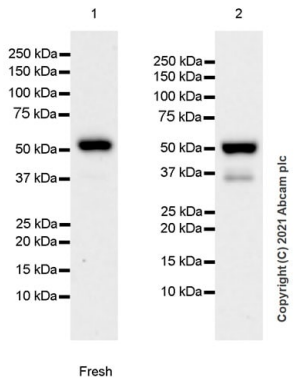
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/20000 dilution

Predicted band size: 55 kDa
Observed band size: 55 kDa

Blocking and diluting buffer and concentration: 5% NFDM/TBST

Exposure time: 3 minutes



Western blot - Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578)

All lanes : Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578) at 1/1000 dilution

Lane 1 : THP-1 (human monocytic leukemia monocyte) whole cell fresh lysate
Lane 2 : THP-1 (human monocytic leukemia monocyte) whole cell lysate

Lysates/proteins at 20 µg per lane.

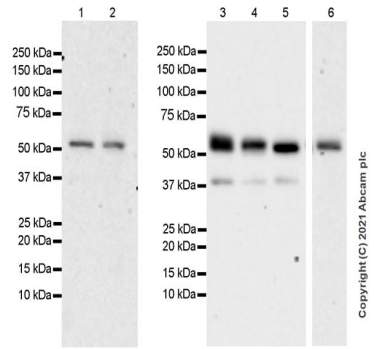
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/50000 dilution

Predicted band size: 55 kDa
Observed band size: 37,55 kDa

Blocking and diluting buffer and concentration: 5% NFDM/TBST

Lane1 Lysate was made freshly and used in WB test immediately to minimize protein degradation.

Exposure time: 81 seconds



Western blot - Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578)

All lanes : Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578) at 1/1000 dilution

Lane 1 : RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate
Lane 2 : 2.4G2 (rat B cell lymphoma B lymphocyte) whole cell lysate
Lane 3 : C6 (rat glial tumor glial cell) whole cell lysate
Lane 4 : U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate
Lane 5 : SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate
Lane 6 : Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate

Lysates/proteins at 20 µg per lane.

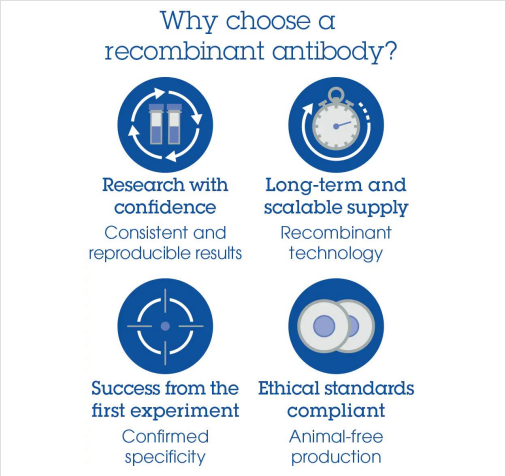
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/50000 dilution

Predicted band size: 55 kDa
Observed band size: 37,55 kDa

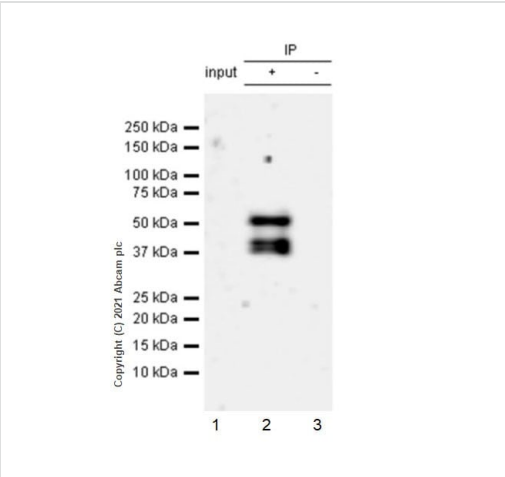
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Lysate were made freshly and used in WB test immediately to minimize protein degradation.

Exposure time: 3 minutes



Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578)



Immunoprecipitation - Anti-TGF beta Receptor I antibody [EPR20923-13] (ab235578)

TGF beta Receptor I was immunoprecipitated from 0.35 mg MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate 10 µg with ab235578 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab235578 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(**ab131366**) was used at 1/5000 dilution.

Lane 1: MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate 10 µg

Lane 2: ab235578 IP in MCF7 whole cell lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab235578 in MCF7 whole cell lysate

The bands beneath the target band is caused by degradation as demonstrated by WB data.

- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

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