abcam

ab314095

Anti-TGF-beta 1 antibody [BLR195J] - BSA free

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human TGFB1 aa 300 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P01137
Clone number	BLR195J

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

ICC

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information TGFB1

Function	Transforming growth factor beta-1 proprotein: Precursor of the Latency-associated peptide (LAP) and Transforming growth factor beta-1 (TGF-beta-1) chains, which constitute the regulatory and active subunit of TGF-beta-1, respectively. Latency-associated peptide. Required to maintain the Transforming growth factor beta-1 (TGF-beta-1) chain in a latent state during storage in extracellular matrix (PubMed:28117447). Associates non-covalently with TGF-beta-1 and regulates its activation via interaction with 'milieu molecules', such as LTBP1, LRRC32/GARP and LRRC33/NRROS, that control activation of TGF-beta-1 (PubMed:19651619, PubMed:19750484, PubMed:2022183, PubMed:22278742, PubMed:8617200, PubMed:8939931). Interaction with LRRC33/NRROS regulates activation of TGF-

beta-1 in macrophages and microglia (Probable). Interaction with LRRC32/GARP controls activation of TGF-beta-1 on the surface of activated regulatory T-cells (Tregs) (PubMed:19651619, PubMed:19750484, PubMed:22278742). Interaction with integrins (ITGAV:ITGB6 or ITGAV:ITGB8) results in distortion of the Latency-associated peptide chain and subsequent release of the active TGF-beta-1 (PubMed:22278742, PubMed:28117447). Transforming growth factor beta-1. Multifunctional protein that regulates the growth and differentiation of various cell types and is involved in various processes, such as normal development, immune function, microglia function and responses to neurodegeneration (By similarity). Activation into mature form follows different steps: following cleavage of the proprotein in the Golgi apparatus, Latency-associated peptide (LAP) and Transforming growth factor beta-1 (TGF-beta-1) chains remain non-covalently linked rendering TGF-beta-1 inactive during storage in extracellular matrix (PubMed:29109152). At the same time, LAP chain interacts with 'milieu molecules', such as LTBP1, LRRC32/GARP and LRRC33/NRROS that control activation of TGF-beta-1 and maintain it in a latent state during storage in extracellular milieus (PubMed:19651619, PubMed:19750484, PubMed:2022183, PubMed:22278742, PubMed:8617200, PubMed:8939931). TGF-beta-1 is released from LAP by integrins (ITGAV:ITGB6 or ITGAV:ITGB8): integrin-binding to LAP stabilizes an alternative conformation of the LAP bowtie tail and results in distortion of the LAP chain and subsequent release of the active TGF-beta-1 (PubMed:22278742, PubMed:28117447). Once activated following release of LAP, TGF-beta-1 acts by binding to TGF-beta receptors (TGFBR1 and TGFBR2), which transduce signal (PubMed:20207738). While expressed by many cells types, TGF-beta-1 only has a very localized range of action within cell environment thanks to fine regulation of its activation by Latency-associated peptide chain (LAP) and 'milieu molecules' (By similarity). Plays an important role in bone remodeling: acts as a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts (By similarity). Can promote either T-helper 17 cells (Th17) or regulatory T-cells (Treg) lineage differentiation in a concentration-dependent manner (By similarity). At high concentrations, leads to FOXP3-mediated suppression of RORC and down-regulation of IL-17 expression, favoring Treg cell development (By similarity). At low concentrations in concert with IL-6 and IL-21, leads to expression of the IL-17 and IL-23 receptors, favoring differentiation to Th17 cells (By similarity). Stimulates sustained production of collagen through the activation of CREB3L1 by regulated intramembrane proteolysis (RIP) (PubMed:25310401). Mediates SMAD2/3 activation by inducing its phosphorylation and subsequent translocation to the nucleus (PubMed:25893292, PubMed:29483653, PubMed:30696809). Positively regulates odontoblastic differentiation in dental papilla cells, via promotion of IPO7-mediated translocation of phosphorylated SMAD2 to the nucleus and subsequent transcription of target genes (By similarity). Can induce epithelial-to-mesenchymal transition (EMT) and cell migration in various cell types (PubMed:25893292, PubMed:30696809).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

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

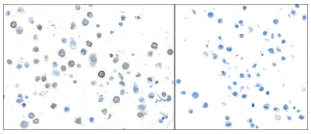
We do not recommend this combination. It is not covered by our product promise.

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.

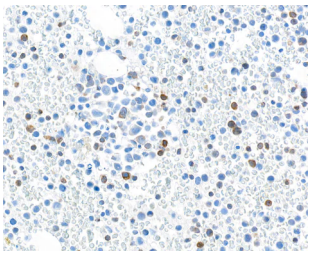
Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images



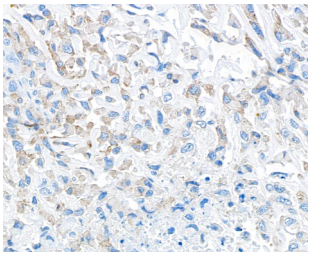
Immunocytochemistry - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Detection of human TGF-beta 1 by immunocytochemistry. Sample: FFPE section of THP-1 cells treated with PMA (left) and THP-1 cells untreated (right). Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195). Secondary: HRP-conjugated goat anti-rabbit IgG .



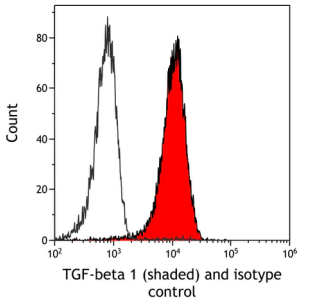
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Detection of human TGF-beta 1 by immunohistochemistry. Sample: FFPE section of acute myeloid leukemia (AML). Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195). Secondary: HRP-conjugated goat anti-rabbit IgG.



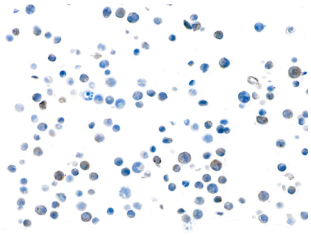
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Detection of human TGF-beta 1 by immunohistochemistry. Sample: FFPE section of osteosarcoma. Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195). Secondary: HRP-conjugated goat anti-rabbit IgG.



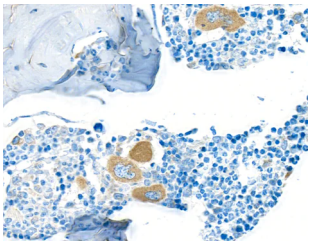
Flow Cytometry - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Detection of human TGF-beta 1 (shaded) in OVCAR8 cells by flow cytometry. Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195) or isotype control (unshaded). Secondary: DyLight® 650-conjugated goat anti-rabbit IgG.



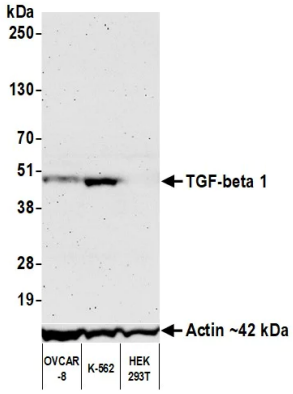
Immunocytochemistry - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Detection of mouse TGF-beta 1 by immunocytochemistry. Sample: FFPE section of Ba/F3. Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195). Secondary: HRP-conjugated goat anti-rabbit IgG.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Detection of mouse TGF-beta 1 by immunohistochemistry. Sample: FFPE section of bone marrow. Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195). Secondary: HRP-conjugated goat anti-rabbit IgG.



Western blot - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Samples: Whole cell lysate (50 µg) from OVCAR-8, K-562, and HEK293T cells prepared using NETN lysis buffer. Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195) used at 1:1000. Secondary: HRP-conjugated goat anti-rabbit IgG. Chemiluminescence with an exposure time of 3 minutes. Lower Panel: Rabbit anti-Actin recombinant monoclonal antibody [BLR057F].
All lanes:
Western blot - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095) at 1/1000 dilution

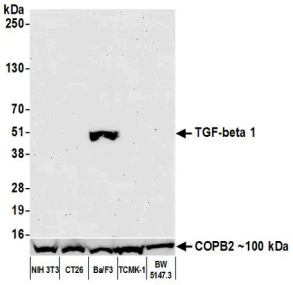
Lane 1:
OVCAR-8 Whole cell lysate at 50 µg

Lane 2:
K-562 Whole cell lysate at 50 µg

Lane 3:
HEK293T Whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG



Western blot - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095)

Samples: Whole cell lysate (50 µg) from NIH 3T3, CT26, Ba/F3, TCMK-1, and BW5147.3 cells prepared using NETN lysis buffer. Antibody: Rabbit anti-TGF-beta 1 recombinant monoclonal antibody [BLR195J] (A700-195) used at 1:1000. Secondary: HRP-conjugated goat anti-rabbit IgG. Chemiluminescence with an exposure time of 75 seconds. Lower Panel: Rabbit anti-COPB2 antibody.
All lanes:
Western blot - Anti-TGF-beta 1 antibody [BLR195J] - BSA free (ab314095) at 1/1000 dilution

Lane 1:
NIH 3T3 Whole cell lysate at 50 µg

Lane 2:
CT26 Whole cell lysate at 50 µg

Lane 3:
Ba/F3 Whole cell lysate at 50 µg

Lane 4:
TCMK-1 Whole cell lysate at 50 µg

Lane 5:
BW5147.3 Whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.