abcam

ab318148

Anti-CTGF antibody [RM1199]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1199
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for mouse and rat FC.
Concentration	0.515 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-

Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CCN2

Function Major connective tissue mitoattractant secreted by vascular endothelial cells. Promotes proliferation and differentiation of chondrocytes. Is involved in the stimulation of osteoblast differentiation and has a critical role in osteogenesis (PubMed:39414788). Mediates heparin- and divalent cation-dependent cell adhesion in many cell types including fibroblasts, myofibroblasts, endothelial and epithelial cells. Enhances fibroblast growth factor-induced DNA synthesis.

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage duration	1-2 weeks
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

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CTGF also known as Connective Tissue Growth Factor is a significant protein in the CCN family involved in regulating various cellular functions. CTGF has a molecular weight of approximately 36-38 kDa. It is highly expressed in tissues such as the skin kidney and vascular tissues. This protein is secreted and can be found in the extracellular matrix where it interacts with other cellular components to mediate its effects.
Biological function summary	Connective Tissue Growth Factor plays an important role in cell adhesion proliferation and differentiation. It operates as an independent protein but can also be part of the extracellular matrix structure. CTGF functions as a mediator in the interaction between cells and their surrounding environment influencing processes such as angiogenesis and wound healing through these interactions.

Pathways	CTGF fits into the TGF-beta and Wnt signaling pathways where it helps modulate cellular responses to external stimuli. It interacts with proteins like fibronectin and integrins within these pathways enhancing cellular communication and response. These pathways are fundamental for both development and pathological conditions showing CTGF's influence on various biological processes.
Associated diseases and disorders	CTGF shows a strong connection with fibrosis and cancer. In fibrotic conditions the CTGF protein interacts with collagen and fibronectin leading to excessive deposition in tissues. In cancers CTGF may promote tumor progression by facilitating angiogenesis and promoting invasive behaviors in tumors. These interactions highlight CTGF's role as a target for therapeutic strategies aimed at treating these diseases.

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

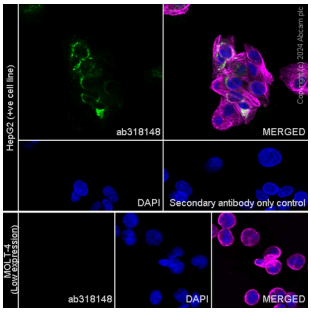
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images



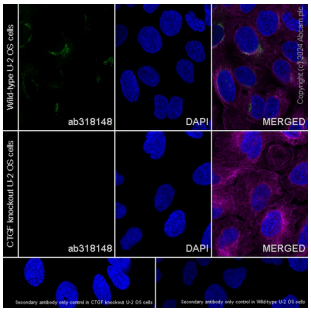
Immunocytochemistry/ Immunofluorescence - Anti-CTGF antibody [RM1199] (ab318148)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) cells labelling CTGF with ab318148 at 1/500 (1.03 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in HepG2 cells (shown in green) . The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Low expression: MOLT-4.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



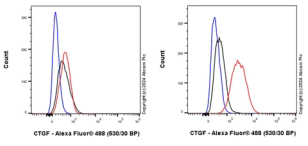
Immunocytochemistry/ Immunofluorescence - Anti-CTGF antibody [RM1199] (ab318148)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized CTGF KO U-2 OS (CTGF knockout human bone osteosarcoma epithelial cell) cells labelling CTGF with ab318148 at 1/500 (1.03 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in wildtype U-2 OS cells (shown in green) and showing negative staining in CTGF knockout U-2 OS cells. The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.

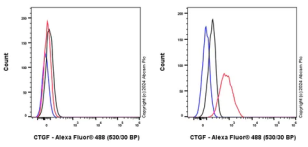


Flow Cytometry (Intracellular) - Anti-CTGF antibody [RM1199] (ab318148)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) (Right) / MCF7 (human breast adenocarcinoma epithelial cell) (Left) cells labelling CTGF with ab318148 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Low expression: MCF-7.

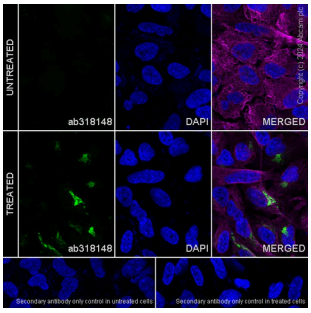


Flow Cytometry (Intracellular) - Anti-CTGF antibody [RM1199] (ab318148)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) (Right) / MOLT-4 (human lymphoblastic leukemia T lymphoblast) (Left) cells labelling CTGF with ab318148 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Low expression: MOLT-4.



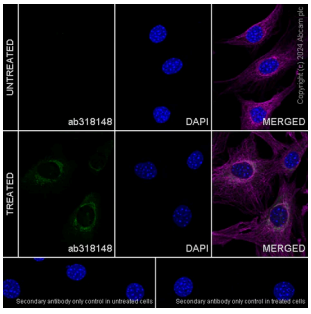
Immunocytochemistry/ Immunofluorescence - Anti-CTGF antibody [RM1199] (ab318148)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Rat-1 (rat embryonic fibroblast) cells labelling CTGF with ab318148 at 1/500 (1.03 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in Rat-1 cells (shown in green) after starvation 18 hours, then treatment with TGF beta 1(10 ng/ml) and Heparin sodium salt (50 ug/ml) for 24 hours. The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



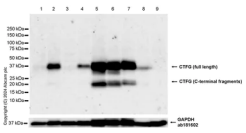
Immunocytochemistry/ Immunofluorescence - Anti-CTGF antibody [RM1199] (ab318148)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling CTGF with ab318148 at 1/500 (1.03 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in NIH/3T3 cells (shown in green) after starvation 18 hours, then treatment with TGF beta 1(10 ng/ml) and Heparin sodium salt (50 ug/ml) for 24 hours. The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Western blot - Anti-CTGF antibody [RM1199] (ab318148)

CTGF Western blot staining using rabbit Anti-CTGF antibody

Low expression: MCF7 and MOLT-4.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 23139278 and PMID: 15955090).

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-CTGF antibody [RM1199] (ab318148) at 1/500 dilution

Lane 1:
Untreated Rat-1 (rat embryonic fibroblast) starved for 18 hours, whole cell lysate at 48 µg

Lane 2:
Rat-1 starved for 18 hours, then treated with 10ng /ml TGF--β1 and 50µg/ml Heparin sodium salt for 24 hours, whole cell lysate at 48 µg

Lane 3:
Untreated NIH/3T3 (mouse embryonic fibroblast) starved for 18 hours, whole cell lysate at 48 µg

Lane 4:
NIH/3T3 starved for 18 hours, then treated with 10ng /ml TGF--β1 and 50µg/ml Heparin sodium salt for 24 hours, whole cell lysate at 48 µg

Lane 5:
HFF-1 (human skin fibroblast) whole cell lysate at 48 µg

Lane 6:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 48 µg

Lane 7:
Huh7 (human hepatocellar carcinoma epithelial cell) whole cell lysate at 48 µg

Lane 8:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 48 µg

Lane 9:
MOLT-4 (human lymphoblastic leukemia T lymphoblast) whole cell lysate at 48 µg

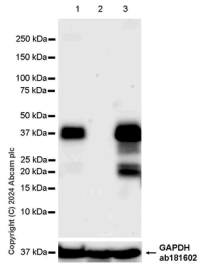
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 38 kDa, 18 kDa, 36 kDa

Exposure time: 180s

Western blot - Anti-CTGF antibody [RM1199] (ab318148)



CTGF Western blot staining using rabbit Anti-CTGF antibody

Lysates/proteins at 48 µg per lane.

In Western blot, ab318148 was shown to bind specifically to CTGF. A band was observed at 18-38 kDa in wild-type U-2 OS cell lysates with whereas no signal observed at this size in CTGF knockout cell line.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-CTGF antibody [RM1199] (ab318148) at 1/500 dilution

Lane 1:
Wild-type U-2 OS (human bone osteosarcoma epithelial cell) whole cell lysate at 48 µg

Lane 2:
CTGF knockout U-2 OS whole cell lysate at 48 µg

Lane 3:
HepG2 (human hepatocellar carcinoma epithelial cell) whole cell lysate at 48 µg

Secondary

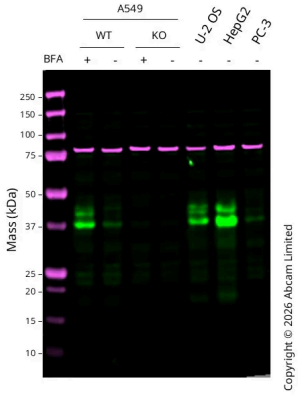
All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 38 kDa, 18 kDa, 36 kDa

Exposure time: 180s

Western blot - Anti-CTGF antibody [RM1199] (ab318148)



CTGF Western blot staining using rabbit Anti-CTGF antibody

Western blot: Anti-CTGF antibody [RM1199] ab318148 staining at 1/2000 dilution, shown in green; Mouse anti-CANX ab238078 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 37 kDa. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5pc 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 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-CTGF antibody [RM1199] (ab318148) at 1/2000 dilution

Lane 1:
Wild-type A549 BFA (5 g/mL, 6 h) at 20 µg

Lane 2:
Wild-type A549 BFA (0 g/mL, 6 h) at 20 µg

Lane 3:
CCN2 knockout A549 BFA (5 g/mL, 6 h) at 20 µg

Lane 4:

CCN2 knockout A549 BFA (0 g/mL, 6 h) at 20 µg

Lane 5:
U-2 OS at 20 µg

Lane 6:
HepG2 at 20 µg

Lane 7:
PC-3 at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 37 kDa

Observed band size: 37 kDa

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