abcam

ab11493

Anti-Calcitonin antibody [16B5]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human CALCA. The exact immunogen used to generate this antibody is proprietary information. Database link P01258
Clone number	16B5
Purification technique	Affinity purification Protein A
Specificity	This antibody recognises human procalcitonin and calcitonin. Specific for calcitonin (central part).
Epitope	aa 72-81
Concentration	2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	-
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Recombinant fragment - Human, Recombinant fragment
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

sELISA

Tested

Species	Recombinant fragment
Dilution info	-

Notes	For sandwich ELISA, use this antibody as Capture at 5µg/ml with ab8553 as Detection.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information CALCA

Function	Calcitonin. Calcitonin is a peptide hormone that causes a rapid but short-lived drop in the level of calcium and phosphate in blood by promoting the incorporation of those ions in the bones. Calcitonin function is mediated by the calcitonin receptor/CALCR and the CALCR-RAMP2 (AMYR2) receptor complex (PubMed:35324283). Katacalcin. Katacalcin is a potent plasma calcium-lowering peptide.

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

Notes

This product was changed from ascites to tissue culture supernatant on 13 June 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

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

Activity summary	Calcitonin also known as thyrocalcitonin is a peptide hormone with a molecular mass of about 3.4 kDa. It consists of 32 amino acids and is primarily synthesized in parafollicular cells or C cells of the thyroid gland. This hormone regulates calcium and phosphate homeostasis in the body. It reduces blood calcium levels by inhibiting osteoclast activity in the bones and decreasing reabsorption in the kidneys leading to more calcium excretion. Calcitonin also interacts with its receptor a G protein-coupled receptor found in tissues like bone kidney and brain.
Biological function summary	This hormone plays a significant role in maintaining calcium levels by balancing the actions of parathyroid hormone (PTH). Calcitonin works independently but interacts with the broader system managing bone remodeling through an intricate network. The presence of calcitonin in specialized receptor complexes allows it to exert its effects efficiently in target tissues making it an important player in calcium and phosphorus metabolism.
Pathways	Calcitonin acts within the calcium signaling pathway and the bone resorption pathway. Through these pathways calcitonin works alongside other proteins such as parathyroid hormone (PTH) and calcitonin gene-related peptide (CGRP) maintaining skeletal integrity. It modulates the activity of osteoclasts ensuring that bone resorption activities are counterbalanced by bone formation and influences intracellular calcium concentration by binding to its receptor on target cells.
Associated diseases and disorders	Calcitonin is linked to conditions such as osteoporosis and medullary thyroid carcinoma. Osteoporosis characterized by decreased bone density and increased fracture risk involves dysregulated calcium and phosphate balance. Proteins like estrogen and growth factors along with calcitonin influence bone health. Medullary thyroid carcinoma a type of thyroid cancer arising from C cells affects calcitonin levels with this hormone serving as a biomarker for diagnosing and monitoring treatment effectiveness. Calcitonin's connection with these diseases highlights its diagnostic and therapeutic potential.

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.

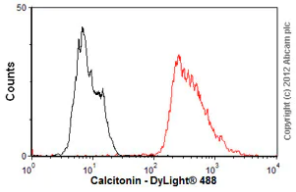
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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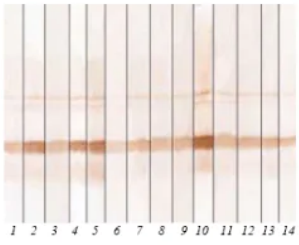
5 product images



Flow Cytometry - Anti-Calcitonin antibody [16B5] (ab11493)

Calcitonin Flow Cytometry staining using mouse Anti-Calcitonin antibody

Overlay histogram showing SH-SY5Y cells stained with ab11493 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab11493, 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 IgG2b [PLPV219] (ab91366<, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.
This image was generated using the ascites version of the product.



Western blot - Anti-Calcitonin antibody [16B5] (ab11493)

Calcitonin Western blot staining using mouse Anti-Calcitonin antibody

Immunodetection of human recominbinant procalcitonin in WB by a range of monoclonal antibodies available which detect different fragments of the protein, N-terminal, calcitonin or catacalcin, (see immunogen section and related figure).
Anti- N-terminal antibodies available; 1) ab14816 [6F10], 2) ab14813 [27A3], 3) ab11498 [38F11], 4) ab14817 [44D9], 5) ab11494 [42],

Anti- calcitonin antibodies available; 6) ab11484 [13B9], 7) ab14818 [13F2], 8) ab14819 [13G11], 9) ab11496 [14A2], 10) ab11493 [16B5], 11) ab11497 [24B2],

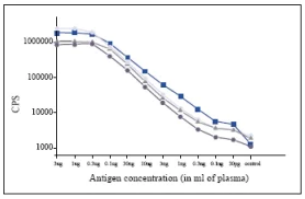
Anti- catacalcin antibodies available; 12) ab11487 [14C12], 13) ab11490 [18B7], 14) ab11491 [22A11].

Immunodetection of human recominbinant procalcitonin in WB by a range of monoclonal antibodies available which detect different fragments of the protein, N-terminal, calcitonin or catacalcin, (see immunogen section and related figure).

Anti- N-terminal antibodies available; 1) ab14816 [6F10], 2) ab14813 [27A3], 3) ab1149

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-Calcitonin antibody [16B5] (ab11493)

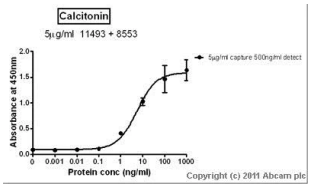
Predicted band size: 15 kDa



Sandwich ELISA - Anti-Calcitonin antibody [16B5] (ab11493)

Calibration curves of several procalcitonin sandwich ELISAs using a range of monclonal antibodies available agaisn't procalcitonin, calcitonin and catacalcin fragments. Capture antibodies used at 1 µg/well and detection antibodies at 0.1 µg/well.
Dark blue square = ab11493 [16B5] (calcitonin fragment) and ab11494 [42] (procalcitonin fragment). Light grey circle = ab11497 [24B2] (calcitonin fragment) and ab11484 [13B9] (calcitonin fragment). Grey triangle = ab11487 [14C12] (catacalcin fragment) and ab11496 [14A2] (calcitonin fragment). Dark grey circle = ab14813 [27A3] (procalcitonin fragment) and ab11491 [22A11] (catacalcin fragment).

This image was generated using the ascites version of the product.



Sandwich ELISA - Anti-Calcitonin antibody [16B5] (ab11493)

Standard Curve for Calcitonin dilution range 1pg/ml to 1ug/ml using Capture Antibody Mouse monoclonal [16B5] to Calcitonin (ab11493) at 5ug/ml and Detector Antibody Rabbit polyclonal to Calcitonin (ab8553) at 0.5ug/ml
This image was generated using the ascites version of the product.



Schematic Diagram - Anti-Calcitonin antibody [16B5] (ab11493)

Amino acid sequence and schematic diagram of human procalcitonin and the N-terminal, calcitonin, and katacalcin (catacalcin) fragments.
This image was generated using the ascites version of the product.

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