abcam

ab254322

Anti-Chromogranin A antibody [EPR22537-248]

Recombinant | RabMAb | 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	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22537-248
Purification technique	Affinity purification Protein A
Concentration	0.525 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Rat
Dilution info	1/100
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/500
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Species	Rat
Dilution info	1/500
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/60
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information Chromogranin-A

Function	Pancreastatin. Strongly inhibits glucose induced insulin release from the pancreas. Catestatin. Inhibits catecholamine release from chromaffin cells and noradrenergic neurons by acting as a non-competitive nicotinic cholinergic antagonist. Can induce mast cell migration, degranulation and production of cytokines and chemokines. Serpinin. Regulates granule biogenesis in endocrine cells by up-regulating the transcription of protease nexin 1 (SERPINE2) via a cAMP-PKA-SP1 pathway. This leads to inhibition of granule protein degradation in the Golgi complex which in turn promotes granule formation (PubMed:21436258). Pyroglutaminated (pGlu)-serpinin exerts an antiapoptotic effect on cells exposed to oxidative stress (PubMed:21537909).

Storage

Shipped at conditions	Conditional Ambient
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

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.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	Chromogranin A (CgA) sometimes called chromagranin A is a glycoprotein with a molecular weight of approximately 49–52 kDa. It is highly expressed in the secretory granules of neuroendocrine cells present in tissues such as the adrenal medulla pancreas and endocrine cells of the gastrointestinal tract. CgA identified as part of a family including chromogranin B and chromogranin C functions mechanically as a precursor to various bioactive peptides. This translates into its involvement in the storage and release of hormones and peptides within vesicles.
Biological function summary	Chromogranin A assists in the regulation of secretory pathways across multiple neuroendocrine systems. It plays a role in hormone storage conversion to active peptides and regulates the exocytosis of hormones. CgA acts within a complex contributing to secretory granule biogenesis and influencing intravesicular acidity.

	As a regulatory component the exact physiological roles are diverse impacting cardiovascular metabolic and immunological processes.
Pathways	Chromogranin A is involved in pathways such as the catecholamine synthesis and release pathway and the serotonergic pathway. Within these pathways it interacts with proteins like secretogranin II and parathyroid hormone (PTH). These interactions modulate neurotransmitter storage and secretion across various systems. CgA's bioactive peptides also contribute to modulating physiological processes like vasoconstriction and insulin regulation linking it closely with these signaling cascades.
Associated diseases and disorders	Chromogranin A is a known marker for neuroendocrine tumors where its levels in blood may increase due to tumor activity. It links to diseases like pheochromocytoma and carcinoid tumors where improper regulation of CgA-associated pathways occurs. Additionally its connection to parathyroid disorders through the PTH pathway illustrates its broader implication in endocrine pathophysiology. CgA serves as an invaluable diagnostic and prognostic tool in these disease states and supports the development of targeted therapies.

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

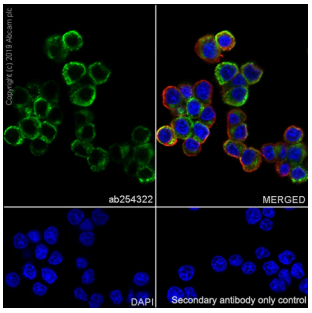
We do not recommend this combination. It is not covered by our product promise.

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.

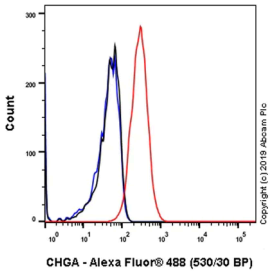
8 product images



Immunocytochemistry/ Immunofluorescence - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Chromogranin A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Chromogranin A antibody

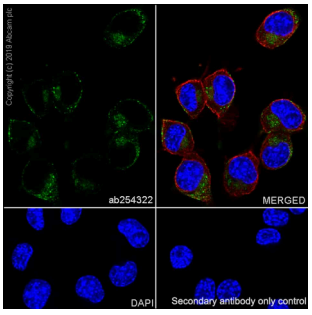
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized PC-12 (rat adrenal gland pheochromocytoma cell line) cells labeling Chromogranin A with ab254322 at 1/100 dilution, followed by a Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous and cytoplasmic staining in PC-12 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).
Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Chromogranin A Flow Cytometry (Intracellular) staining using rabbit Anti-Chromogranin A antibody

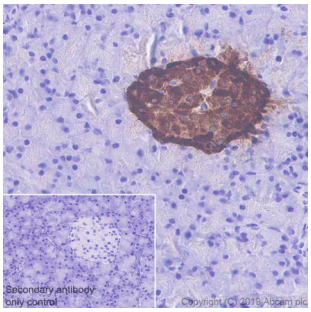
Intracellular flow cytometric analysis of4% paraformaldehyde-fixed, 90% methanol-permeabilized Neuro-2a (mouse neuroblastoma cell line) cells labeling Chromogranin A with ab254322 at 1/60 (red) compared with Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue).
Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077), at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Chromogranin A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Chromogranin A antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Neuro-2a (mouse neuroblastoma cell line) cells labeling Chromogranin A with ab254322 at 1/100 dilution, followed by a Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous and cytoplasmic staining in Neuro-2a cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).
Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

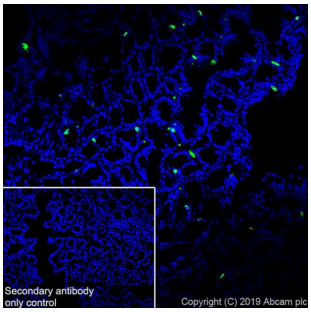
Chromogranin A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Chromogranin A antibody

Immunohistochemical analysis of paraffin-embedded rat panceas tissue labeling Chromogranin A with ab254322 at 1/4000 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on rat pancreas islet (PMID: 22412953) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab254322 for 30 mins at RT.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

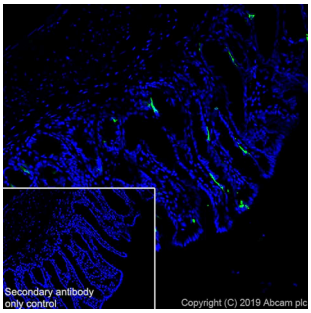


Immunohistochemistry (Frozen sections) - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Chromogranin A Immunohistochemistry (Frozen sections) staining using rabbit Anti-Chromogranin A antibody

Frozen section of 4% PFA-fixed, 0.2% Triton X-100 permeabilized mouse colon tissue labeling Chromogranin A with ab254322 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077), at 1/1000 dilution (green). Positive staining on enteroendocrine cells of mouse colon (PMID: 27287799). is observed. The nuclear counter stain is DAPI (blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077), at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

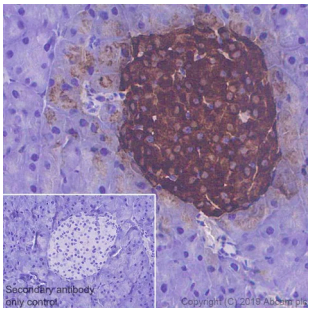


Immunohistochemistry (Frozen sections) - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Chromogranin A Immunohistochemistry (Frozen sections) staining using rabbit Anti-Chromogranin A antibody

Frozen section of 4% PFA-fixed, 0.2% Triton X-100 permeabilized rat colon tissue labeling Chromogranin A with ab254322 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077), at 1/1000 dilution (green). Positive staining on enteroendocrine cells of mouse colon (PMID: 27287799) is observed. The nuclear counter stain is DAPI (blue).
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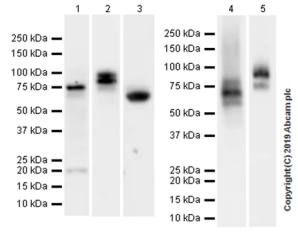
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Immunohistochemical analysis of paraffin-embedded mouse pancreas tissue labeling Chromogranin A with ab254322 at 1/4000 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse pancreas islet (PMID: 22412953) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab254322 for 30 mins at RT.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Western blot - Anti-Chromogranin A antibody [EPR22537-248] (ab254322)

Blocking and dilution buffer: 5% NFDM/TBST.
Exposure times.

Lane 1: 15 seconds; Lane 2: 3.25 seconds; Lane 3:26 seconds; Lane 4: 3.25 seconds; Lane 5: 15 seconds.

The molecular weight observed is consistent with what has been described in the literature (PMID: 14734658, 21052719).

All lanes:
Western blot - Anti-Chromogranin A antibody [EPR22537-248] (ab254322) at 1/1000 dilution

Lane 1:
Neuro-2a (mouse neuroblastoma cell line) whole cell lysate at 20 µg

Lane 2:
PC-12 (rat adrenal gland pheochromocytoma cell line) whole cell lysate at 20 µg

Lane 3:
Mouse serum at 20 µg

Lane 4:
Mouse adrenal gland lysate at 20 µg

Lane 5:
Rat adrenal gland lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 50 kDa

Observed band size: 20 kDa, 75 kDa

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