abcam

ab182139

Anti-REA antibody [EPR14523]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR14523
Purification technique	Affinity purification Protein A
Concentration	0.706 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/8000
Notes	**For unpurified use at 1/100 - 1/250.**

Species	Rat

Dilution info	1/8000
Notes	**For unpurified use at 1/100 - 1/250.**

Species	Human
Dilution info	1/8000
Notes	**For unpurified use at 1/100 - 1/250.**

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	**For unpurified use at 1/100 - 1/250.**

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/70
Notes	-

Expected

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

Target data

See full target information PHB2

Function

Protein with pleiotropic attributes mediated in a cell-compartment- and tissue-specific manner, which include the plasma membrane-associated cell signaling functions, mitochondrial chaperone, and transcriptional co-regulator of transcription factors and sex steroid hormones in the nucleus. In the mitochondria, together with PHB, forms large ring complexes (prohibitin complexes) in the inner mitochondrial membrane (IMM) and functions as a chaperone protein that stabilizes mitochondrial respiratory enzymes and maintains mitochondrial integrity in the IMM, which is required for mitochondrial morphogenesis, neuronal survival, and normal lifespan (Probable). The prohibitin complex, with DNAJC19, regulates cardiolipin remodeling and the protein turnover of OMA1 in a cardiolipin-binding manner (By similarity). Also regulates cytochrome-c oxidase assembly (COX) and mitochondrial respiration (PubMed:11302691, PubMed:20959514). Binding to sphingoid 1-phosphate (SPP) modulates its regulator activity (PubMed:11302691, PubMed:20959514). Has a key role of mitophagy receptor involved in targeting mitochondria for autophagic degradation (PubMed:28017329). Involved in mitochondrial-mediated antiviral innate immunity, activates RIG-I-mediated signal transduction and production of IFNB1 and pro-inflammatory cytokine IL6 (PubMed:31522117). In the nucleus, serves as transcriptional co-regulator (Probable). Acts as a mediator of transcriptional repression by nuclear hormone receptors via recruitment of histone deacetylases. Functions as an estrogen receptor (ER)-selective coregulator that potentiates the inhibitory activities of antiestrogens and represses the activity of estrogens. Competes with NCOA1 for modulation of ER transcriptional activity (By similarity). In the plasma membrane, is involved in IGFBP6-induced cell migration (PubMed:24003225). Cooperates with CD86 to mediate CD86-signaling in B lymphocytes that regulates the level of IgG1 produced through the activation of distal signaling intermediates. Upon CD40 engagement, required to activate NF-kappa-B signaling pathway via phospholipase C and protein kinase C activation (By similarity). (Microbial infection) Involved in human enterovirus 71/EV-71 infection by enhancing the autophagy mechanism during the infection.

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	REA also known as repressor of estrogen receptor activity is a protein that plays a role in estrogen receptor signaling pathways. REA has a molecular mass of approximately 69 kDa. It expresses widely in various tissues including the heart brain and skeletal muscle. This protein interacts with a number of transcriptional regulators to modulate gene expression. "Antirea" and "Protin rea" sometimes refer to tools used to study its function or its expression in research contexts.
Biological function summary	REA acts as a co-regulator in estrogen receptor complexes influencing the transcriptional activity of these receptors. It binds with estrogen receptors to either suppress or enhance their activity based on the cellular context and signaling molecules involved. Through this modulation REA contributes to the

	regulation of genes involved in cell growth differentiation and survival. Its ability to interact with other proteins such as coactivators and corepressors positions REA as an important player in modulating cellular responses to estrogen.
Pathways	REA is embedded in the estrogen signaling pathway which is critical for the regulation of reproductive tissues and certain non-reproductive tissues. It interacts with proteins like steroid receptor coactivator-3 (SRC-3) and nuclear receptor corepressor (NCoR) to influence pathway dynamics. Additionally REA connects with the MAPK signaling pathway impacting cell proliferation and survival by interacting with proteins such as MAPK and ERK2. These interactions place REA as a central node in hormone signaling networks within the cell.
Associated diseases and disorders	The alterations in REA function have links to breast cancer and endometriosis. In breast cancer abnormal REA levels can disrupt estrogen signaling affecting tumor growth and progression. Coregulators like SRC-3 further modulate the disease outcome through their interaction with REA. In the case of endometriosis REA influences estrogen-driven processes contributing to the pathology of the disorder. Understanding REA's interactions offers insights into therapeutic targets and potential treatment strategies for these conditions.

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

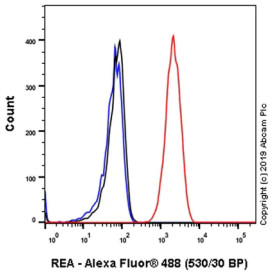
We do not recommend this combination. It is not covered by our product promise.

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.

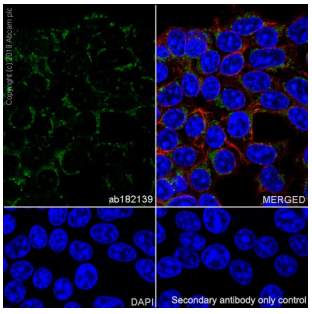
11 product images



Flow Cytometry (Intracellular) - Anti-REA antibody [EPR14523] (ab182139)

REA Flow Cytometry (Intracellular) staining using rabbit Anti-REA antibody

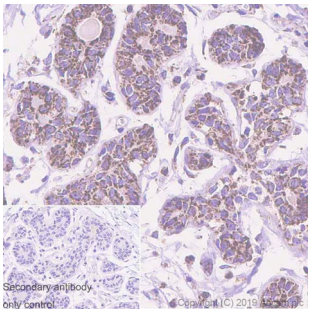
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling REA with purified ab182139 at 1/70 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-REA antibody [EPR14523] (ab182139)

REA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-REA antibody

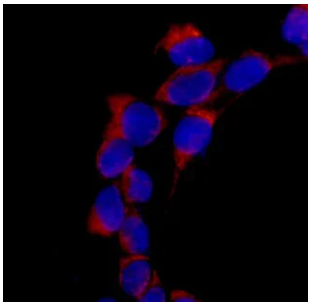
Immunocytochemistry/ Immunofluorescence analysis of 293T (Human embryonic kidney epithelial cell) cells labeling REA with purified ab182139 at 1:50 dilution (10 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-REA antibody [EPR14523] (ab182139)

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

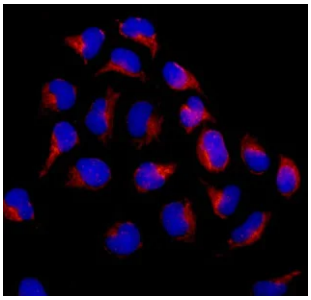
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast tissue sections labeling REA with purified ab182139 at 1:8000 dilution (0.09 µg/ml). Heat mediated antigen retrieval was performed using Bond ™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-REA antibody [EPR14523] (ab182139)

REA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-REA antibody

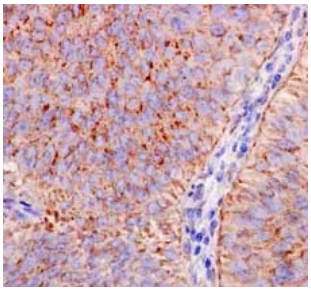
Immunofluorescent analysis of paraformaldehyde fixed 293T cells labeling REA using unpurified ab182139 at a 1/100 dilution. A Goat anti rabbit IgG (Alexa Fluor®555) was used as the secondary at a 1/200 dilution. Counterstain DAPI.



Immunocytochemistry/ Immunofluorescence - Anti-REA antibody [EPR14523] (ab182139)

REA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-REA antibody

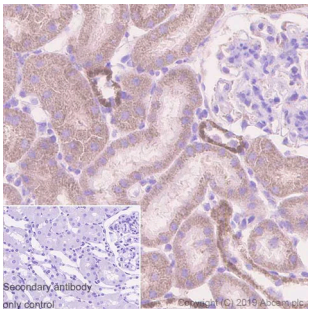
Immunofluorescent analysis of acetone fixed HeLa cells labeling REA using unpurified ab182139 at a 1/250 dilution. A Goat anti rabbit IgG (Alexa Fluor®555) was used as the secondary at a 1/200 dilution. Counterstain DAPI.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-REA antibody [EPR14523] (ab182139)

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

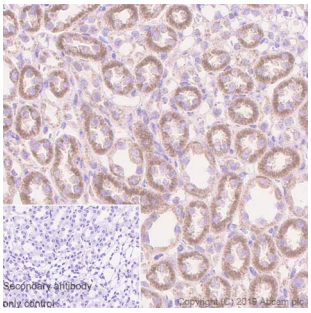
Immunohistochemical analysis of paraffin embedded Human transitional cell carcinoma of bladder tissue sections labeling REA using unpurified ab182139 at a 1/250 dilution. A ready to use HRP Polymer for Rabbit IgG was used as the secondary. Hematoxylin counterstain.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-REA antibody [EPR14523] (ab182139)

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

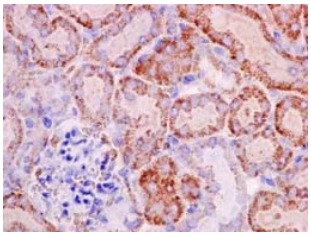
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse kidney tissue sections labeling REA with purified ab182139 at 1:8000 dilution (0.09 µg/ml). Heat mediated antigen retrieval was performed using Bond ™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-REA antibody [EPR14523] (ab182139)

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

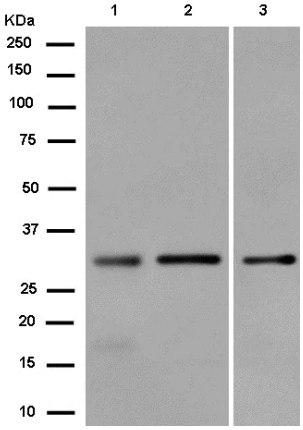
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue sections labeling REA with purified ab182139 at 1:8000 dilution (0.09 µg/ml). Heat mediated antigen retrieval was performed using Bond ™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-REA antibody [EPR14523] (ab182139)

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

Immunohistochemical analysis of paraffin embedded mouse kidney tissue sections labeling REA using unpurified ab182139 at a 1/250 dilution. A ready to use HRP Polymer for Rabbit IgG was used as the secondary. Hematoxylin counterstain.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-REA antibody [EPR14523] (ab182139)

Blocking/ Dilution buffer: 5% NFDM /TBST.
All lanes:
Western blot - Anti-REA antibody [EPR14523] (ab182139) at 1/20000 dilution

Lane 1:
HT-1080 cell lysate at 20 µg

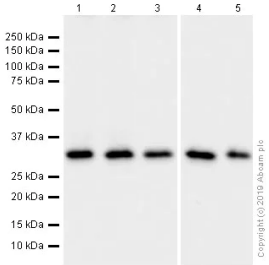
Lane 2:
HeLa cell lysate at 20 µg

Lane 3:
293T cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 33 kDa



Western blot - Anti-REA antibody [EPR14523] (ab182139)

All lanes:
Western blot - Anti-REA antibody [EPR14523] (ab182139) at 1/10000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) whole cell lysates at 20 µg

Lane 3:
Mouse brain lysates at 20 µg

Lane 4:
RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysates at 20 µg

Lane 5:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 33 kDa

Observed band size: 33 kDa

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