

Product datasheet

Anti-Estrogen Receptor alpha antibody [EPR4097] ab108398

Recombinant RabMAb

★★★★★ [11 Abreviews](#) [37 References](#) [18 Images](#)

Overview

Product name	Anti-Estrogen Receptor alpha antibody [EPR4097]
Description	Rabbit monoclonal [EPR4097] to Estrogen Receptor alpha
Host species	Rabbit
Specificity	Expression levels of ER alpha protein vary with sample type.
Tested applications	Suitable for: Flow Cyt (Intra), WB, IHC-P, IHC-Fr, ChIC/CUT&RUN-seq, ICC/IF
Species reactivity	Reacts with: Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: MCF7 and T47-D cell lysates. IHC-Fr: Frozen Human cervix and uterus tissue sections. IHC-P: Human breast ductal infiltrating carcinoma and normal breast tissues. ICC/IF: MCF-7 cells.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none">- High batch-to-batch consistency and reproducibility- Improved sensitivity and specificity- Long-term security of supply- Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 0.05% BSA, 59% PBS
Purity	Protein A purified
Clonality	Monoclonal

Clone number EPR4097
 Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab108398 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		Use at an assay dependent concentration.
WB	★★★★★ (5)	1/1000 - 1/10000. Predicted molecular weight: 66 kDa. For unpurified use at 1/200 - 1/1000.
IHC-P	★★★★★ (3)	1/250. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. See IHC antigen retrieval protocols . For unpurified use at 1/30.
IHC-Fr		Use a concentration of 5 µg/ml.
ChIC/CUT&RUN-seq		Use at an assay dependent concentration.
ICC/IF		1/250. For unpurified use at 1/30.

Target

Function Nuclear hormone receptor. The steroid hormones and their receptors are involved in the regulation of eukaryotic gene expression and affect cellular proliferation and differentiation in target tissues. Can activate the transcriptional activity of TFF1.

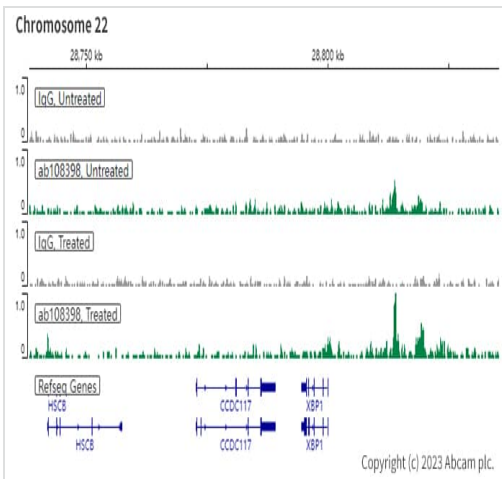
Sequence similarities Belongs to the nuclear hormone receptor family. NR3 subfamily. Contains 1 nuclear receptor DNA-binding domain.

Domain Composed of three domains: a modulating N-terminal domain, a DNA-binding domain and a C-terminal ligand-binding domain.

Post-translational modifications Phosphorylated by cyclin A/CDK2. Phosphorylation probably enhances transcriptional activity. Glycosylated; contains N-acetylglucosamine, probably O-linked. Ubiquitinated. Deubiquitinated by OTUB1. Dimethylated by PRMT1 at Arg-260. The methylation may favor cytoplasmic localization. Palmitoylated (isoform 3). Not biotinylated (isoform 3).

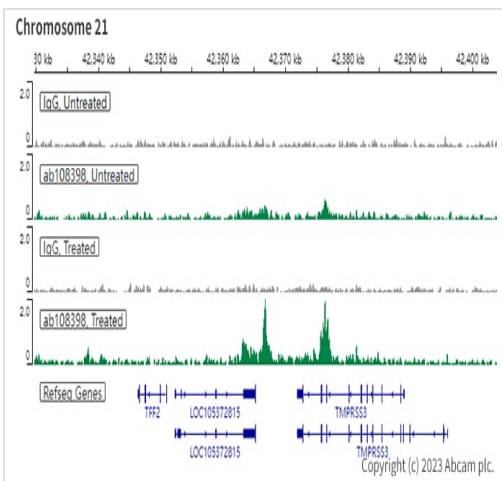
Cellular localization Nucleus. Cytoplasm. Cell membrane. A minor fraction is associated with the inner membrane and Nucleus. Cytoplasm. Cell membrane. Associated with the inner membrane via palmitoylation.

Images



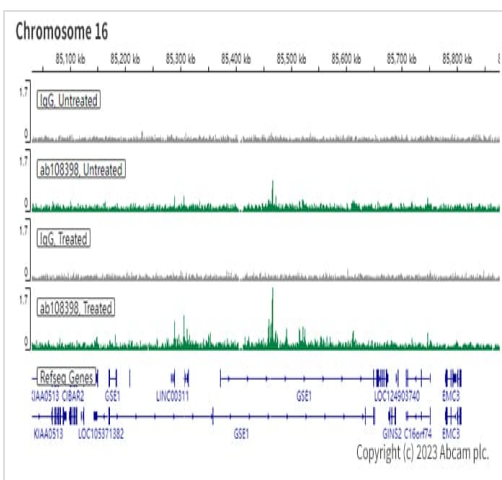
ChIC/CUT&RUN sequencing - Anti-Estrogen
Receptor alpha antibody [EPR4097] (ab108398)

ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/μL, 2.5 x 10⁵ MCF7 (Human breast adenocarcinoma epithelial cell) cells treated with phenol red free medium and 5% charcoal stripped FBS for 3 days than treated with β-estradiol (10 nM 45 min) and 5 μg of ab108398 [EPR4097]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control **ab172730** is also shown. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.



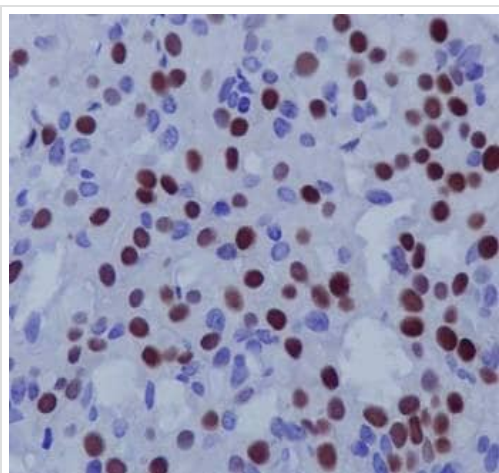
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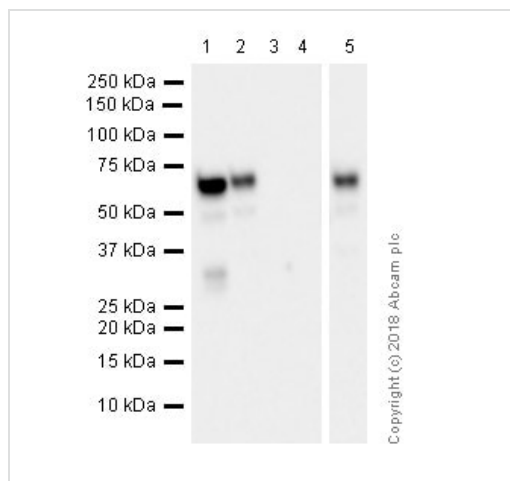
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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast tissue labelling Estrogen Receptor alpha with purified ab108398 at 1/250. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Counterstained with Hematoxylin.



Western blot - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

All lanes : Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398) at 1/2000 dilution

Lane 1 : MCF7 (Human breast adenocarcinoma epithelial cell). Whole cell lysates

Lane 2 : T-47D (human mammary gland ductal carcinoma epithelial cell). Whole cell lysates

Lane 3 : MDA-MB231 (Human breast adenocarcinoma epithelial cell) Whole cell lysates (Negative control)

Lane 4 : HepG2 (Human hepatocellular carcinoma epithelial cell) Whole cell lysates (Negative control)

Lane 5 : Human uterus whole tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary

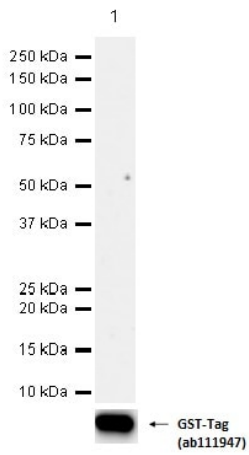
All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 66 kDa

Observed band size: 68 kDa

Exposure time: 10 seconds

Blocking and diluting buffer: 5% NFDm/TBST



Western blot - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398) at 1/1000 dilution + GST-Tagged Recombinant Human Estrogen Receptor beta (aa 1 to 323) protein 100ng

Secondary

Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

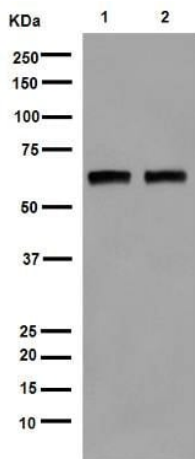
Predicted band size: 66 kDa

Exposure time: 180 seconds

Blocking/Diluting buffer and concentration: 5% NFDm/TBST

Lane 1: Recombinant Human Estrogen Receptor beta (aa 1 to 323) protein, (Cat#: [ab158385](#))

There is no cross-reactivity between ab108398 and ER beta protein.



Western blot - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

All lanes : purified at 1/2000 dilution

Lane 1 : MCF-7 cell lysate

Lane 2 : T47-D cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

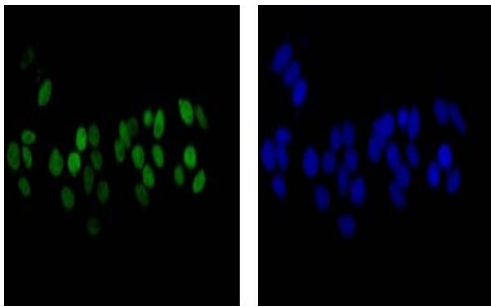
All lanes : Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 66 kDa

Observed band size: 67 kDa

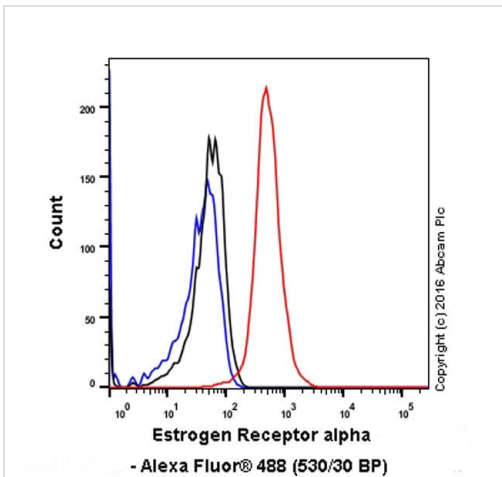
Blocking buffer and concentration: 5% NFDm/TBST.

Diluting buffer and concentration: 5% NFDm /TBST.



Immunocytochemistry/ Immunofluorescence - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunocytochemistry/Immunofluorescence analysis of MCF-7 cells labelling Estrogen Receptor alpha (green) with purified ab108398 at 1/200. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/200) was used as the secondary antibody. Counterstained with DAPI (blue).

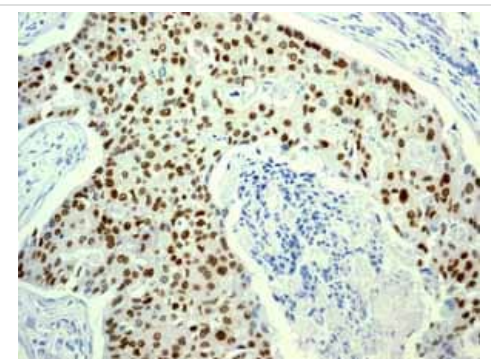


Flow Cytometry (Intracellular) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

ab108398 staining Estrogen Receptor alpha in the human cell line MCF-7 (human breast carcinoma) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde, permeabilized with 90% methanol and the sample was incubated with the primary antibody at a dilution of 1/20. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/2000 was used as the secondary antibody.

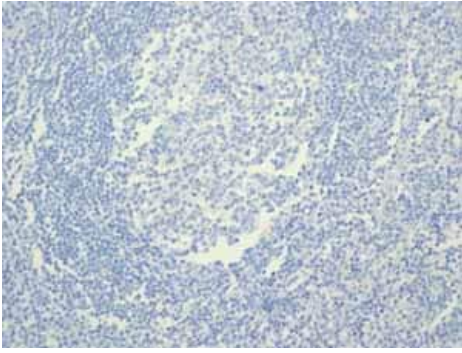
Isotype control: Rabbit monoclonal IgG (Black)

Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)



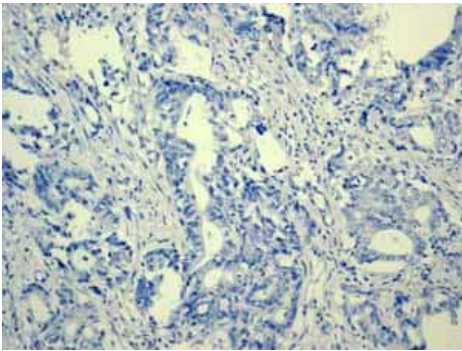
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast ductal infiltrating carcinoma tissue labelling Estrogen Receptor alpha with unpurified ab108398.



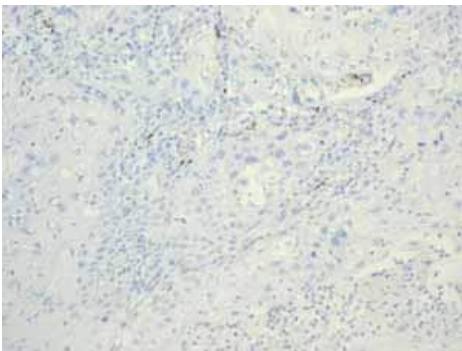
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human normal tonsil tissue. Unpurified ab108398 shows negative staining.



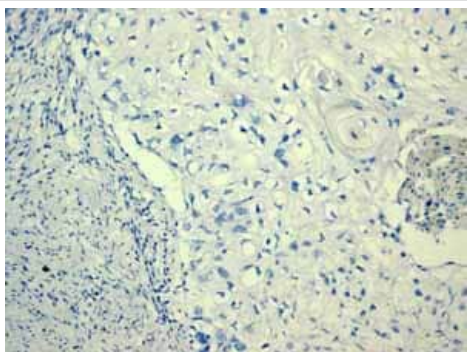
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colonic adenocarcinoma tissue. Unpurified ab108398 shows negative staining.



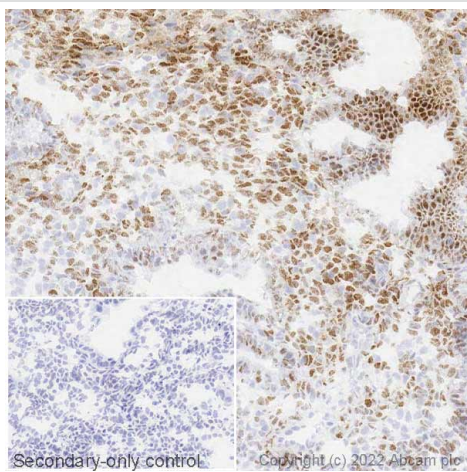
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung adenocarcinoma tissue. Unpurified ab108398 shows negative staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cervical carcinoma tissue. Unpurified ab108398 shows negative staining.

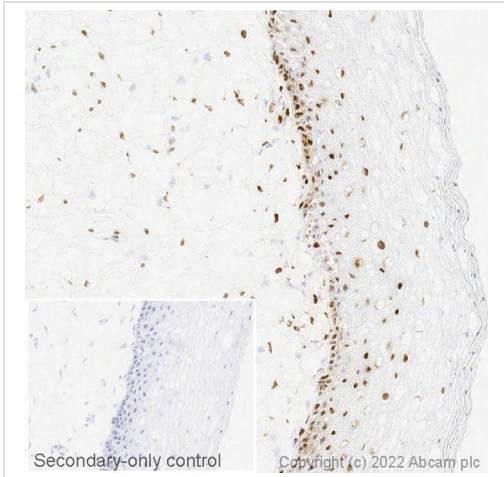


Immunohistochemistry (Frozen sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

IHC image of Estrogen Receptor alpha staining in a section of frozen human uterus* performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab108398, 5 ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.

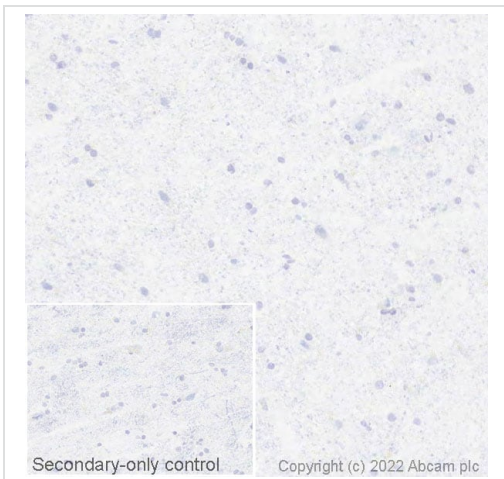


Immunohistochemistry (Frozen sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

IHC image of Estrogen Receptor alpha staining in a section of frozen human cervix* performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab108398, 5 ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

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Immunohistochemistry (Frozen sections) - Anti-Estrogen Receptor alpha antibody [EPR4097] (ab108398)

Negative control image: IHC image of Estrogen Receptor alpha staining in a section of frozen human hippocampus* performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab108398, 5 ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-Estrogen Receptor alpha antibody [EPR4097]
(ab108398)

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