abcam

ab239793

Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free

Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793) is a rabbit recombinant monoclonal antibody in a PBS only buffer for easy conjugation detecting Progesterone Receptor in **Flow Cytometry, IHC-P, ICC/IF, mIHC**. Suitable for **Human**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	SP2
Purification technique	Affinity purification
Epitope	Amino acids 412-526
Concentration	0.965 - 1.049 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human
Dilution info	1/6000
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Staining of formalin-fixed tissues is required by boiling tissue sections in 10mM citrate buffer, pH 6.0 for 10 min followed by cooling at RT for 20 min.

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information PGR

Function The steroid hormones and their receptors are involved in the regulation of eukaryotic gene expression and affect cellular proliferation and differentiation in target tissues. Depending on the isoform, progesterone receptor functions as a transcriptional activator or repressor. Isoform A. Ligand-dependent transdominant repressor of steroid hormone receptor transcriptional activity including repression of its isoform B, MR and ER. Transrepressional activity may involve recruitment of corepressor NCOR2. Isoform B. Transcriptional activator of several progesteron-dependent promoters in a variety of cell types. Involved in activation of SRC-dependent MAPK signaling on hormone stimulation. Isoform 4. Increases mitochondrial membrane potential and cellular respiration upon stimulation by progesterone.

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

What is this antibody validated in?
Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), Multiplex IHC (mIHC) in Human samples.

Collaboration
Anti-Progesterone Receptor [SP2] - BSA and Azide free (ab239793) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

Other related products
We have a range of other formats of antibody clone [SP2] also available for your convenience: ab16661, ab27596, Carrier free - ab239793, Alexa Fluor® 488 - ab267523, Alexa Fluor® 647 - ab267524

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The progesterone receptor (PR) also known as NR3C3 is a nuclear receptor that functions as a transcription factor in response to the hormone progesterone. This receptor has a mass of approximately 99 kDa and is expressed in tissues such as the reproductive organs including the uterus ovaries and mammary glands. It is also found in non-reproductive tissues like the brain and bone. The receptor has two main isoforms PR-A and PR-B which differ slightly in structure but have unique biological roles.
Biological function summary	The progesterone receptor plays a significant role in regulating gene expression related to reproductive processes. PR is not part of a larger complex by itself but interacts with various coactivators and corepressors to modulate transcription. In the uterus and mammary glands PR mediates the effects of progesterone by promoting cell proliferation and preparing tissues for pregnancy. In other systems PR also links to various metabolic and immunological pathways influencing cell cycle progression and immune response.
Pathways	Progesterone receptor activity is integrated within the reproductive hormone signaling pathways and the Wnt signaling pathway. The receptor interacts directly with key proteins such as estrogen receptor (ER) and steroid receptor coactivator (SRC) complexes which are pivotal in modulating response to hormonal signals. These interactions underline the essential role of PR in maintaining hormonal balance and regulating reproductive functions.
Associated diseases and disorders	The progesterone receptor associates with breast cancer and endometriosis. Aberrant expression or mutations in PR can contribute to the development and progression of breast cancer often linked with the estrogen receptor's influence. In endometriosis PR's altered functionality affects cellular response to progesterone contributing to tissue growth outside the uterus. These conditions also involve interactions with proteins like BRCA1 in breast cancer highlighting how PR connects to broader cellular and pathological networks.

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

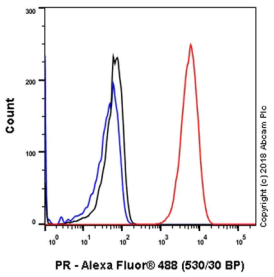
We do not recommend this combination. It is not covered by our product promise.

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.

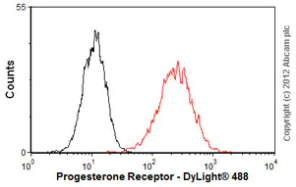
7 product images



Flow Cytometry - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

Progesterone Receptor Flow Cytometry staining using rabbit Anti-Progesterone Receptor antibody

Flow Cytometry analysis of T-47D (human ductal breast epithelial tumor epithelial cell) cells labeling Progesterone Receptor with purified ab16661 at 1:220 dilution (1.04 µg/ml) - Red. Cells were fixed with 4% paraformaldehyde . A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1:2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) - Black. Unlabeled control - Blue.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239793)

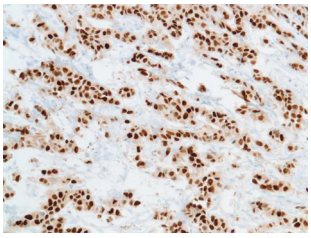


Flow Cytometry - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

Progesterone Receptor Flow Cytometry staining using rabbit Anti-Progesterone Receptor antibody

Overlay histogram showing T47D cells stained with ab16661 (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 (ab16661, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

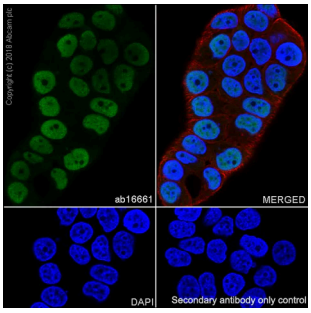
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab16661).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

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

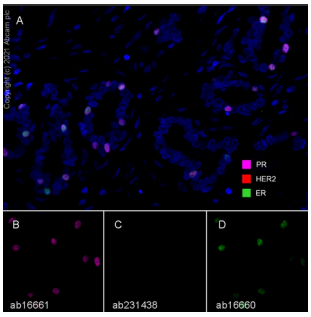
Immunohistochemistry analysis of human breast carcinoma tissue labelling SP2 with ab16661. This data was developed using the same antibody clone in a different buffer formulation containing Tris buffered saline, BSA, and sodium azide (ab16661).



Immunocytochemistry/ Immunofluorescence - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

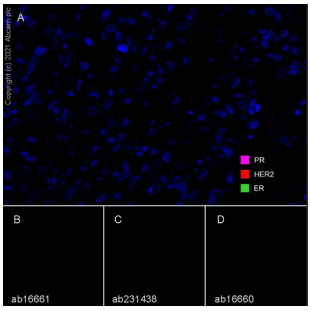
Progesterone Receptor Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Progesterone Receptor antibody

Immunocytochemistry/ Immunofluorescence analysis of T-47D (human ductal breast epithelial tumor epithelial cell) cells labeling Progesterone Receptor with purified ab16661 at 1:100 (2.28 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. 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 nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239793)



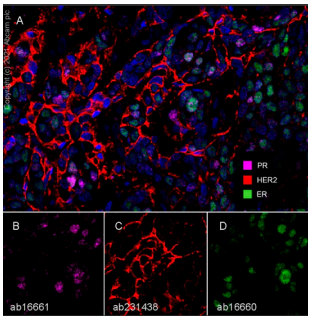
Multiplex immunohistochemistry - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

This data was developed using ab16661, the same antibody clone in a different buffer formulation. Multiplex immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human mammary gland tissue sections labeling Progesterone Receptor (PR) with ab16661, at a 1/6000 dilution (0.2 µg/ml). Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins and Opal Polymer HRP Ms + Rb was used as the secondary antibody. DAPI was used as the nuclear counterstain. Panel A: merged staining of anti-Progesterone Receptor (PR) (magenta; Opal™690), anti-HER2 (red; Opal™570) and anti-Estrogen Receptor (ER) (green; Opal™520) on human mammary gland. Panel B: anti-PR stained on nucleus of some ductal cells. Panel C: anti-HER2 stained on no cells. Panel D: anti-ER stained on nucleus of some ductal cells. The section was incubated in three rounds of staining: in the order of ab16661 for 30 mins, then ab16660 and ab231438 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Multiplex immunohistochemistry - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

This data was developed using ab16661, the same antibody clone in a different buffer formulation. Multiplex immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human triple-negative breast carcinoma tissue sections labeling Progesterone Receptor (PR) with ab16661, at a 1/6000 dilution (0.2 µg/ml). Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins and Opal Polymer HRP Ms + Rb was used as the secondary antibody. DAPI was used as the nuclear counterstain. Panel A: merged staining of anti-Progesterone Receptor (PR) (magenta; Opal™690), anti-HER2 (red; Opal™570) and anti-Estrogen Receptor (ER) (green; Opal™520) on human triple-negative breast carcinoma. Panel B: anti-PR stained on no cells. Panel C: anti-HER2 stained on no cells. Panel D: anti-ER stained on no cells. The section was incubated in three rounds of staining: in the order of ab16661 for 30 mins, then ab16660 and ab231438 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Multiplex immunohistochemistry - Anti-Progesterone Receptor antibody [SP2] - BSA and Azide free (ab239793)

This data was developed using ab16661, the same antibody clone in a different buffer formulation. Multiplex immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human triple-positive breast carcinoma tissue sections labeling Progesterone Receptor (PR) with ab16661, at a 1/6000 dilution (0.2 µg/ml). Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins and Opal Polymer HRP Ms + Rb was used as the secondary antibody. DAPI was used as the nuclear counterstain. Panel A: merged staining of anti-Progesterone Receptor (PR) (magenta; Opal™690), anti-HER2 (red; Opal™570) and anti-Estrogen Receptor (ER) (green; Opal™520) on human triple-positive breast carcinoma. Panel B: anti-PR stained on nucleus of cancer cells. Panel C: anti-HER2 stained on membrane of cancer cells. Panel D: anti-ER stained on nucleus of cancer cells. The section was incubated in three rounds of staining: in the order of ab16661 for 30 mins, then ab16660 and ab231438 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

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