abcam

Product datasheet

Anti-Glucocorticoid Receptor antibody ab3579

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Overview

Product name	Anti-Glucocorticoid Receptor antibody
Description	Rabbit polyclonal to Glucocorticoid Receptor
Host species	Rabbit
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide corresponding to Human Glucocorticoid Receptor aa 245-259. Sequence: CKPLILPDTKPKIKD (Peptide available as **ab5833**) Run BLAST with Run BLAST with
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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 or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Constituent: 100% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab3579 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
WB	★★★★☆ **(3)**	Use a concentration of 5 µg/ml. Predicted molecular weight: 97 kDa.Can be blocked with **Glucocorticoid Receptor peptide (ab5833)**. Detects an ~97 kDa protein representing GR as well as two other unidentified proteins at ~135 to ~145 kDa from rat liver extract. These cross reacting proteins are not believed to be GR or GR precursors as they do not bind [3H]dexamethasone mesylate.
ICC/IF		1/20.

Target

Function
Receptor for glucocorticoids (GC). Has a dual mode of action: as a transcription factor that binds to glucocorticoid response elements (GRE) and as a modulator of other transcription factors. Affects inflammatory responses, cellular proliferation and differentiation in target tissues. Could act as a coactivator for STAT5-dependent transcription upon growth hormone (GH) stimulation and could reveal an essential role of hepatic GR in the control of body growth. Involved in chromatin remodeling. Plays a significant role in transactivation. Involved in nuclear translocation.

Tissue specificity
Widely expressed. In the heart, detected in left and right atria, left and right ventricles, aorta, apex, intraventricular septum, and atrioventricular node as well as whole adult and fetal heart.

Involvement in disease
Defects in NR3C1 are a cause of glucocorticoid resistance (GCRES) [MIM:138040]; also known as cortisol resistance. It is a hypertensive, hyperandrogenic disorder characterized by increased serum cortisol concentrations. Inheritance is autosomal dominant.

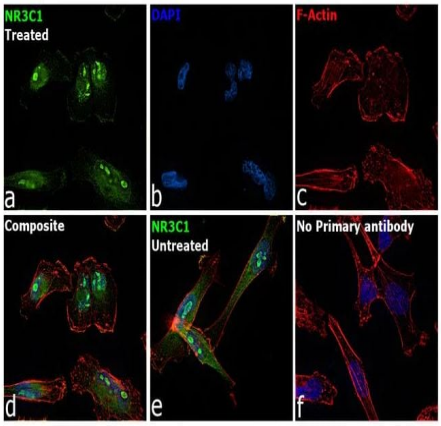
Sequence similarities
Belongs to the nuclear hormone receptor family. NR3 subfamily.
Contains 1 nuclear receptor DNA-binding domain.

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

Post-translational modifications
Increased proteasome-mediated degradation in response to glucocorticoids.
Phosphorylated in the absence of hormone; becomes hyperphosphorylated in the presence of glucocorticoid. The Ser-203-phosphorylated form is mainly cytoplasmic, and the Ser-211-phosphorylated form is nuclear. Transcriptional activity correlates with the amount of phosphorylation at Ser-211.
Sumoylated; this reduces transcription transactivation.
Ubiquitinated; restricts glucocorticoid-mediated transcriptional signaling.

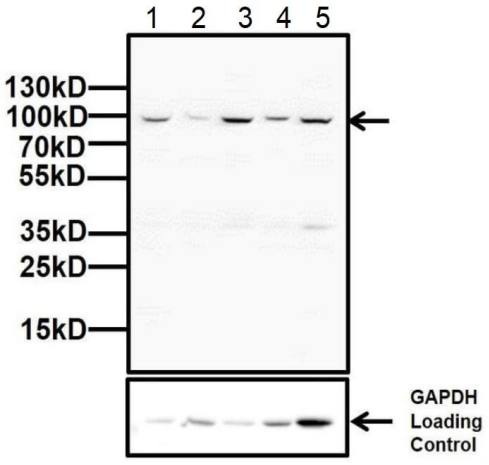
Cellular localization
Cytoplasm. Nucleus. Cytoplasmic in the absence of ligand, nuclear after ligand-binding and Nucleus. Localized largely in the nucleus.

Images



Immunocytochemistry/ Immunofluorescence - Anti-Glucocorticoid Receptor antibody (ab3579)

Immunofluorescence analysis of Glucocorticoid Receptor in MDA-MB-231 cells (serum-starved) and MDA-MB-231 cells serum-starved for 24 hours, followed by 1 µM Dexamethasone treatment for 2 hours using ab3579. The cells were fixed with 4% paraformaldehyde, permeabilized with 0.1% Triton™ X-100, and blocked with 2% BSA. The cells were labeled with ab3579 at 1/100 dilution in 0.1% BSA, incubated at 4°C overnight followed by Donkey anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor®488 at 1/2000 dilution (Panel a: Green) in MDA-MB-231 treated cells. Nuclei (Panel b:Blue) were stained DAPI. F-actin (Panel c: Red) was stained with Rhodamine Phalloidin 1/300. (Panel d) represents the merged image showing nuclear localization of NR3C1 protein in MDA-MB-231 treated cells. (Panel e) represents the merged image of MDA-MB-231 untreated cells, that shows cytoplasmic localization of NR3C1 protein. (Panel f) represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



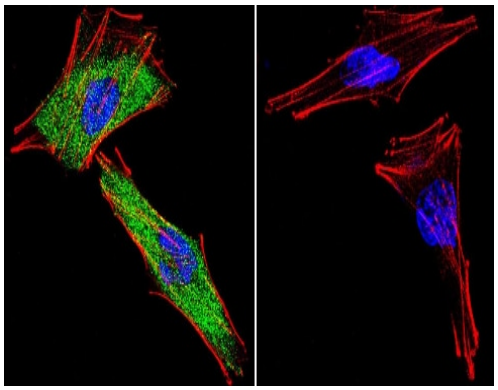
Western blot - Anti-Glucocorticoid Receptor antibody (ab3579)

All lanes : Anti-Glucocorticoid Receptor antibody (ab3579) at 1 µg/ml

Lane 1 : T-47D (Human ductal breast epithelial tumor cell line) whole cell lysate at 20 µg/ml with 5% Milk in TBST
Lane 2 : A549 (Human lung carcinoma cell line) whole cell lysate at 20 µg with 5% Milk in TBST
Lane 3 : K562 (Human chronic myelogenous leukemia cell line from bone marrow) whole cell lysate at 20 µg with 5% Milk in TBST
Lane 4 : MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 20 µg with 5% Milk in TBST
Lane 5 : Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg with 5% Milk in TBST

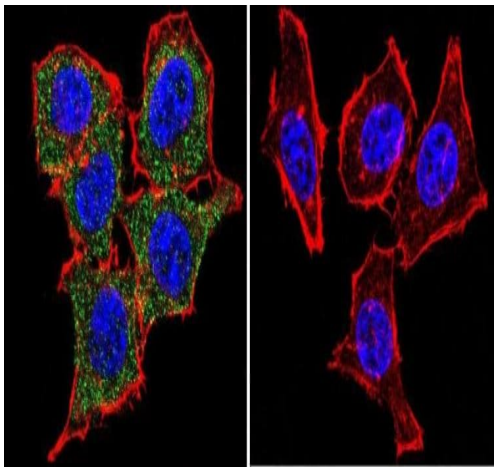
Secondary
All lanes : HRP conjugate at 1/1000 dilution

Predicted band size: 97 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Glucocorticoid Receptor antibody - ChIP Grade (ab3579)

Immunocytochemistry/Immunofluorescence analysis of A2058 (Human metastatic melanoma cell line) cells labeling Glucocorticoid Receptor (green) with ab3579 at 1/20 dilution. F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue). Cells were fixed with formaldehyde and incubated with the primary antibody overnight at 4°C. A DyLight 488-conjugated secondary antibody was used. 60X magnification. Right - negative control.



Immunocytochemistry/ Immunofluorescence - Anti-Glucocorticoid Receptor antibody (ab3579)

Immunofluorescent analysis of ab3579 shows staining in HeLa (Human epithelial adenocarcinoma cell line) cells. Glucocorticoid Receptor (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with ab3579at a dilution of 1/100 over night at 4 °C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody. Images were taken at 60X magnification.

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

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