abcam

Product datasheet

Anti-Androgen Receptor antibody [AN1-15] ab2742

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Overview

Product name	Anti-Androgen Receptor antibody [AN1-15]
Description	Rat monoclonal [AN1-15] to Androgen Receptor
Specificity	Androgen receptor. This product does not cross-react with estrogen, progesterone or glucocorticoid receptors.
Tested applications	**Suitable for:** ICC, IHC-Fr, IP, WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human, Non human primates **Predicted to work with:** Rhesus monkey
Immunogen	Recombinant fragment corresponding to Human Androgen Receptor aa 331-572.

Properties

Form	Lyophilised:Reconstitute with 100ul PBS.
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	Preservative: 0.05% Sodium azide Constituent: PBS
Purity	IgG fraction
Purification notes	Purified from ascites fluid.
Clonality	Monoclonal
Clone number	AN1-15
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab2742** 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
ICC		Use a concentration of 5 µg/ml.

Application	Abreviews	Notes
IHC-Fr		Use a concentration of 4 µg/ml.
IP		Use at an assay dependent concentration.
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 110 kDa (predicted molecular weight: 99 kDa).
EMSA		Use at an assay dependent concentration.
IHC-P		Use a concentration of 4 µg/ml. Perform enzymatic antigen retrieval before commencing with IHC staining protocol.

Target

Function

Steroid hormone receptors are ligand-activated transcription factors that regulate eukaryotic gene expression and affect cellular proliferation and differentiation in target tissues. Transcription factor activity is modulated by bound coactivator and corepressor proteins. Transcription activation is down-regulated by NR0B2. Activated, but not phosphorylated, by HIPK3 and ZIPK/DAPK3.
Isoform 3 and isoform 4 lack the C-terminal ligand-binding domain and may therefore constitutively activate the transcription of a specific set of genes independently of steroid hormones.

Tissue specificity

Isoform 2 is mainly expressed in heart and skeletal muscle (PubMed:15634333). Isoform 3 is expressed by basal and stromal cells of prostate (at protein level) (PubMed:19244107).

Involvement in disease

Androgen insensitivity syndrome
Spinal and bulbar muscular atrophy X-linked 1
Defects in AR may play a role in metastatic prostate cancer. The mutated receptor stimulates prostate growth and metastases development despite of androgen ablation. This treatment can reduce primary and metastatic lesions probably by inducing apoptosis of tumor cells when they express the wild-type receptor.
Androgen insensitivity, partial

Sequence similarities

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

Domain

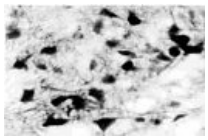
Composed of three domains: a modulating N-terminal domain, a DNA-binding domain and a C-terminal ligand-binding domain. In the presence of bound steroid the ligand-binding domain interacts with the N-terminal modulating domain, and thereby activates AR transcription factor activity. Agonist binding is required for dimerization and binding to target DNA. The transcription factor activity of the complex formed by ligand-activated AR and DNA is modulated by interactions with coactivator and corepressor proteins. Interaction with RANBP9 is mediated by both the N-terminal domain and the DNA-binding domain. Interaction with EFCAB6/DJBP is mediated by the DNA-binding domain.

Post-translational modifications

Sumoylated on Lys-388 (major) and Lys-521. Ubiquitinated. Deubiquitinated by USP26. 'Lys-6' and 'Lys-27'-linked polyubiquitination by RNF6 modulates AR transcriptional activity and specificity.
Phosphorylated in prostate cancer cells in response to several growth factors including EGF. Phosphorylation is induced by c-Src kinase (CSK). Tyr-535 is one of the major phosphorylation sites and an increase in phosphorylation and Src kinase activity is associated with prostate

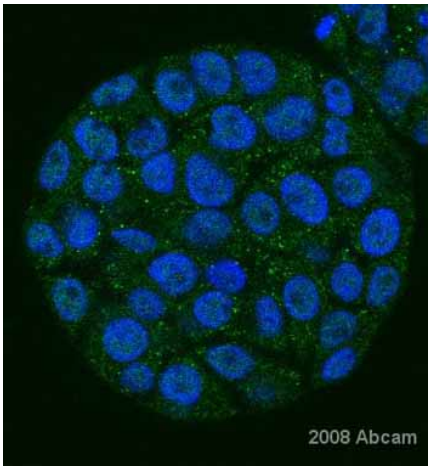
	cancer progression. Phosphorylation by TNK2 enhances the DNA-binding and transcriptional activity and may be responsible for androgen-independent progression of prostate cancer. Phosphorylation at Ser-83 by CDK9 regulates AR promoter selectivity and cell growth. Phosphorylation by PAK6 leads to AR-mediated transcription inhibition. Palmitoylated by ZDHHC7 and ZDHHC21. Palmitoylation is required for plasma membrane targeting and for rapid intracellular signaling via ERK and AKT kinases and cAMP generation.
Cellular localization	Nucleus. Cytoplasm. Predominantly cytoplasmic in unligated form but translocates to the nucleus upon ligand-binding. Can also translocate to the nucleus in unligated form in the presence of RACK1.
Form	There are 2 isoforms produced by alternative splicing. Isoform 1 is also known as: AR-B; isoform 2 is known as AR-A or variant AR45.

Images



Immunocytochemistry - Anti-Androgen Receptor antibody [AN1-15] (ab2742)

Immunohistochemistry was performed on normal biopsies of deparaffinized Human thyroid tissue. To expose target proteins, heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer, microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature and probed with a Anti-Androgen Receptor antibody [AN1-15] (ab2742) at a dilution of 1:20 or without primary antibody (negative control) overnight at 4°C. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP, followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunocytochemistry/ Immunofluorescence - Androgen Receptor antibody [AN1-15] (ab2742)
This image is courtesy of an anonymous Abreview

ICC/IF image of ab2742 staining human prostate cells expressing androgen receptors. The cells were fixed with 4% paraformaldehyde, permeabilised with 0.8% Triton X-100, and blocked with 20% serum for 1 hour at 24°C. The primary anitibody was diluted 1/50 in 20% horse serum in PBS and incubated for 20 minutes at 4°C. An Alexa Fluor® 488 conjugated donkey anti-rat was used as the secondary antibody.

The blue staining is the cell nuclei, the green staining shows the androgen receptors.

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