**Product datasheet**

**Anti-Androgen Receptor antibody - ChIP Grade**

**ab74272**

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### Overview

**Product name**  Anti-Androgen Receptor antibody - ChIP Grade  
**Description**  Rabbit polyclonal to Androgen Receptor - ChIP Grade  
**Host species**  Rabbit  
**Tested applications**  Suitable for: ChIP, IP, WB, ICC/IF, IHC-P, IHC-Fr  
**Species reactivity**  Reacts with: Mouse, Rat, Human  
**Immunogen**  Synthetic peptide within Human Androgen Receptor aa 300-400 (N terminal). The exact sequence is proprietary.  
**Database link:**  P10275  
**Positive control**  IHC-P: Human prostate carcinoma tissue. WB: LnCap cell lysate.

### 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. Avoid freeze / thaw cycle.  
**Storage buffer**  pH: 7.60  
Preservative: 0.1% Sodium azide  
Constituents: 1% BSA, PBS  
**Purity**  Protein A purified  
**Clonality**  Polyclonal  
**Isotype**  IgG

### Applications

Our Abpromise guarantee covers the use of **ab74272** in the following tested applications.  
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
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
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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>ChIP</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 24466341</td>
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<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 1 μg/ml. Predicted molecular weight: 99 kDa.</td>
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<tr>
<td>ICC/IF</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/200. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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<tr>
<td>IHC-Fr</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. PubMed: 21430025</td>
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</table>

Target
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**

**Lane 1**: Anti-Androgen Receptor antibody - ChIP Grade (ab74272) at 1/50 dilution
**Lane 2**: Anti-Androgen Receptor antibody - ChIP Grade (ab74272) at 1/100 dilution
**All lanes**: LNCaP Whole Cell

Predicted band size: 99 kDa
Observed band size: 110 kDa

ab74272 used in ChIP application. Whole cell lysate from human LNCaP cells was used. Cross linking step (X-ChIP) for 10 minutes in 1% formaldehyde. Taqman detection step. Positive control was PSA enhancer. Negative control region, no antibody control, and in the absence of ligand. 25 µl undiluted ab74272 per IP was used.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human prostate carcinoma labelling Androgen Receptor with ab74272 at a dilution of 1/200 for 30mins at room temperature.

ab74272 staining Androgen Receptor in mouse neuroblastoma cells by Immunocytochemistry/Immunofluorescence. Cells were fixed in formaldehyde and permeabilized in 0.2% Triton X-100 prior to blocking in 3% BSA for 1 hour. The primary antibody was diluted 1/200 and incubated with the sample for 12 hours at 4°C. The secondary antibody was Alexa Fluor® 594-conjugated goat anti-rabbit polyclonal, diluted 1/400.

ab74272 staining Androgen Receptor in adult mouse testis tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with 4% PFA and blocked with 5% BSA for 45 minutes at 25°C. Samples were incubated with primary antibody (1/400 in 1% BSA) for 16 hours at 4°C. A TRITC-conjugated donkey anti-rabbit IgG polyclonal (1/400) was used as the secondary antibody.
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