

# DR1 (A-14): sc-67620

## BACKGROUND

DR1 (downregulator of transcription 1), also known as NC2 $\beta$  (negative cofactor 2 subunit  $\beta$ ), is a TFIID (TATA box-binding protein)-associated protein. DR1 localizes to the nucleus and contains an N-terminal histone fold motif, a TFIID-binding domain and an alanine and glutamine rich region. Via its histone fold motif, DR1 forms a heterodimer with NC2 $\alpha$  (DRAP1) to comprise the conserved eukaryotic complex, NC2 (negative cofactor 2). The NC2 complex can both positively and negatively regulate transcription by RNA Pol II. More specifically, NC2 acts as a repressor of TATA-dependent transcription and acts as an activator for DPE-dependent transcription. NC2 represses RNA Pol II transcription by binding to TFIID and inhibiting association of the transcription factors TFIIA and TFIIB. NC2 activity is regulated by phosphorylation. Both subunits, NC2 $\alpha$  and DR1, are phosphorylated *in vivo*.

## REFERENCES

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- Klejman, M.P., et al. 2004. NC2 $\alpha$  interacts with BTA1 and stimulates its ATP-dependent association with TATA-binding protein. *Mol. Cell. Biol.* 24: 10072-10082.
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- Malecová, B., et al. 2007. The initiator core promoter element antagonizes repression of TATA-directed transcription by negative cofactor NC2. *J. Biol. Chem.* 282: 24767-24776.
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## CHROMOSOMAL LOCATION

Genetic locus: DR1 (human) mapping to 1p22.1; Dr1 (mouse) mapping to 5 F.

## SOURCE

DR1 (A-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DR1 of human origin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-67620 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-67620 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DR1 (A-14) is recommended for detection of DR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DR1 siRNA (h): sc-62238, DR1 siRNA (m): sc-62239, DR1 shRNA Plasmid (h): sc-62238-SH, DR1 shRNA Plasmid (m): sc-62239-SH, DR1 shRNA (h) Lentiviral Particles: sc-62238-V and DR1 shRNA (m) Lentiviral Particles: sc-62239-V.

DR1 (A-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DR1: 19 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **DR1 (D-1): sc-515083** or **DR1 (C-8): sc-515024**, our highly recommended monoclonal alternatives to DR1 (A-14).