

DR1 (K-15): sc-67622

BACKGROUND

DR1 (downregulator of transcription 1), also known as NC2 β (negative cofactor 2 subunit β), 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 α (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 α and DR1, are phosphorylated *in vivo*.

REFERENCES

- Creton, S., et al. 2002. The NC2 α and β subunits play different roles *in vivo*. *Genes Dev.* 16: 3265-3276.
- Kanbe, E., et al. 2003. DR1-like element in human topoisomerase II α gene involved in enhancement of etoposide-induced apoptosis by PPAR γ ligand. *Exp. Hematol.* 31: 300-308.
- Kadonaga, J.T. 2003. The DPE, a core promoter element for transcription by RNA polymerase II. *Exp. Mol. Med.* 34: 259-264.
- Klejman, M.P., et al. 2004. NC2 α interacts with BTA1 and stimulates its ATP-dependent association with TATA-binding protein. *Mol. Cell. Biol.* 24: 10072-10082.
- Gilfillan, S., et al. 2005. Efficient binding of NC2.TATA-binding protein to DNA in the absence of TATA. *J. Biol. Chem.* 280: 6222-6230.

CHROMOSOMAL LOCATION

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

SOURCE

DR1 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DR1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67622 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-67622 X, 200 μ g/0.1 ml.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

DR1 (K-15) 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), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

DR1 (K-15) is also recommended for detection of DR1 in additional species, including equine, canine, bovine, porcine and avian.

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 (K-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

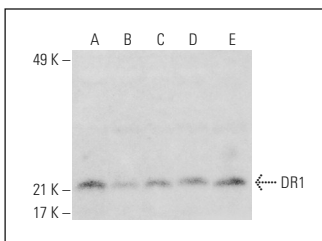
Molecular Weight of DR1: 19 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or mouse testis extract: sc-2405.

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 MarkerTM compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz MarkerTM Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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 UltraCruzTM Mounting Medium: sc-24941.

DATA



DR1 (K-15): sc-67622. Western blot analysis of DR1 expression in Jurkat (A), NIH/3T3 (B), HeLa (C) and K-562 (D) whole cell lysates and mouse testis tissue extract (E).

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.