

# Ref-1 (H-300): sc-5572

## BACKGROUND

The role of transcription factors in the regulation of gene expression is well established. Although the activity of these factors can be regulated by phosphorylation, evidence has indicated regulation of DNA binding mediated by changes in reduction-oxidation (redox) status. Mutational analysis has identified a single conserved cysteine residue mapping within the DNA binding domains of Fos and Jun. Chemical oxidation or modification of this cysteine residue inhibits the DNA binding activity of Fos and Jun. A similar mode of regulation has been recently proposed for other nuclear transcription factors. Oxidation is reversible by these compounds or by a cellular redox/DNA repair protein identified originally as Ref-1 (redox factor 1). Ref-1 is identical to a previously characterized DNA repair enzyme designated HAP1, APE or APEX.

## CHROMOSOMAL LOCATION

Genetic locus: APEX1 (human) mapping to 14q11.2; Apex1 (mouse) mapping to 14 C1.

## SOURCE

Ref-1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping near the N-terminus of Ref-1 of human origin.

## PRODUCT

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

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-5572 X, 200 µg/0.1 ml.

## APPLICATIONS

Ref-1 (H-300) is recommended for detection of Ref-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Ref-1 (H-300) is also recommended for detection of Ref-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Ref-1 siRNA (h): sc-29470, Ref-1 siRNA (m): sc-36401, Ref-1 shRNA Plasmid (h): sc-29470-SH, Ref-1 shRNA Plasmid (m): sc-36401-SH, Ref-1 shRNA (h) Lentiviral Particles: sc-29470-V and Ref-1 shRNA (m) Lentiviral Particles: sc-36401-V.

Ref-1 (H-300) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Ref-1: 37 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Y79 nuclear extract: sc-2126 or Ref-1 (h): 293T Lysate: sc-176689.

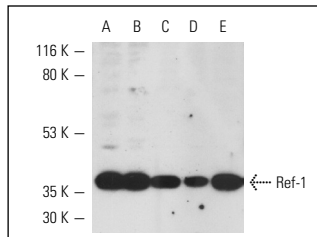
## STORAGE

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

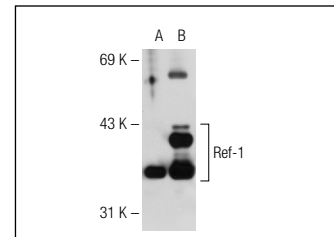
## RESEARCH USE

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

## DATA



Ref-1 (H-300): sc-5572. Western blot analysis of Ref-1 expression in HeLa (A) and Y79 (B) nuclear extracts and BJAB (C), SW480 (D) and COLO 320DM (E) whole cell lysates.



Ref-1 (H-300): sc-5572. Western blot analysis of Ref-1 expression in non-transfected: sc-117752 (A) and human Ref-1 transfected: sc-176689 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Cloutier, A., et al. 2003. Inflammatory cytokine expression is independent of the c-Jun N-terminal kinase/AP-1 signaling cascade in human neutrophils. *J. Immunol.* 171: 3751-3761.
- Yoo, D.G., et al. 2008. Alteration of APE1/ref-1 expression in non-small cell lung cancer: the implications of impaired extracellular superoxide dismutase and catalase antioxidant systems. *Lung Cancer* 60: 277-284.
- Maga G., et al. 2008. Replication protein A and proliferating cell nuclear antigen coordinate DNA polymerase selection in 8-oxo-guanine repair. *Proc. Natl. Acad. Sci. USA* 105: 20689-20694.
- Curtis, C.D., et al. 2009. Apurinic/aprimidinic endonuclease 1 alters estrogen receptor activity and estrogen responsive gene expression. *Mol. Endocrinol.* 23: 1346-1359.
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- Di Paola, D., et al. 2010. Increased origin activity in transformed versus normal cells: identification of novel protein players involved in DNA replication and cellular transformation. *Nucleic Acids Res.* 38: 2314-2331.
- Yoo, D.G., et al. 2010. Redox factor-1 inhibits Cyclooxygenase-2 expression via inhibiting of p38 MAPK in the A549 cells. *Korean J. Physiol. Pharmacol.* 14: 139-144.
- Lee, J.Y., et al. 2011. Human HOXA5 homeodomain enhances protein transduction and its application to vascular inflammation. *Biochem. Biophys. Res. Commun.* 410: 312-316.



Try **Ref-1 (C-4): sc-17774** or **Ref-1 (H-6): sc-55498**, our highly recommended monoclonal alternatives to Ref-1 (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Ref-1 (C-4): sc-17774**.