

p53 (R-19): sc-1313



The Power to Question

BACKGROUND

p53, a DNA-binding, oligomerization domain- and transcription activation domain-containing tumor suppressor, upregulates growth arrest and apoptosis-related genes in response to stress signals, thereby influencing programmed cell death, cell differentiation, and cell cycle control mechanisms. p53 localizes to the nucleus, yet can be chaperoned to the cytoplasm by the negative regulator, MDM2. MDM2 is an E3 ubiquitin ligase that is upregulated in the presence of active p53, where it polyubiquitinates p53 for proteasome targeting. p53 fluctuates between latent and active DNA-binding conformations and is differentially activated through posttranslational modifications, including phosphorylation and acetylation. Mutations in the DNA-binding domain (DBD) of p53, amino acids 110-286, can compromise energetically-favorable association with *cis* elements and are implicated in several human cancers.

CHROMOSOMAL LOCATION

Genetic locus: Trp53 (mouse) mapping to 11 B3.

SOURCE

p53 (R-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of p53 of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1313 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p53 (R-19) is recommended for detection of p53 of mouse and rat 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).

Suitable for use as control antibody for p53 siRNA (m): sc-29436, p53 siRNA (r): sc-45917, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA Plasmid (r): sc-45917-SH, p53 shRNA (m) Lentiviral Particles: sc-29436-V and p53 shRNA (r) Lentiviral Particles: sc-45917-V.

Molecular Weight of p53: 53 kDa.

Positive Controls: p53 (m): 293T Lysate: sc-125766, WR 19L cell lysate: sc-3805 or mouse LacZ whole cell lysate: sc-364371.

RESEARCH USE

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

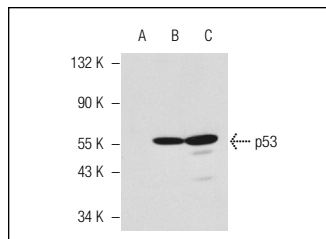
PROTOCOLS

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

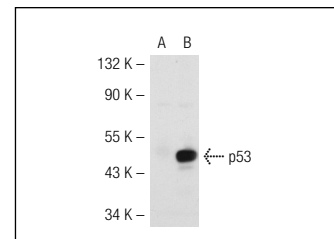
STORAGE

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

DATA



p53 (R-19): sc-1313. Western blot analysis of p53 expression in A-431 (A), WR19L (B) and mouse LacZ (C) whole cell lysates. Note lack of reactivity with human p53 in lane A.



p53 (R-19): sc-1313. Western blot analysis of p53 expression in non-transfected: sc-117752 (A) and mouse p53 transfected: sc-125766 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Lloyd, A.C., et al. 1997. Cooperating oncogenes converge to regulate cyclin/Cdk complexes. *Genes Dev.* 11: 663-667.
- Topinka, J., et al. 2008. DNA adducts formation and induction of apoptosis in rat liver epithelial "stem-like" cells exposed to carcinogenic polycyclic aromatic hydrocarbons. *Mutat. Res.* 638: 122-132.
- Hinkal, G., et al. 2009. Timed somatic deletion of p53 in mice reveals age-associated differences in tumor progression. *PLoS ONE* 4: e6654.
- Pikkarainen, S., et al. 2009. Regulation of expression of the rat orthologue of mouse double minute 2 (MDM2) by H₂O₂-induced oxidative stress in neonatal rat cardiac myocytes. *J. Biol. Chem.* 284: 27195-27210.
- Trilecova, L., et al. 2011. Toxic effects of methylated benzo[a]pyrenes in rat liver stem-like cells. *Chem. Res. Toxicol.* 24: 866-876.
- Andrysik, Z., et al. 2011. Activation of the aryl hydrocarbon receptor is the major toxic mode of action of an organic extract of a reference urban dust particulate matter mixture: the role of polycyclic aromatic hydrocarbons. *Mutat. Res.* 714: 53-62.
- Buizza, L., et al. 2012. Conformational altered p53 as an early marker of oxidative stress in Alzheimer's disease. *PLoS ONE* 7: e29789.
- Ajayi, A., et al. 2015. Altered p53 and NOX1 activity cause bioenergetic defects in a SCA7 polyglutamine disease model. *Biochim. Biophys. Acta* 1847: 418-428.

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