SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (N-19): sc-1314

SANTA CRUZ BIOTECHNOLOGY

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, an E3 ubiquitin ligase that is upregulated in the presence of active p53, where MDM2 poly-ubiquitinates p53 for proteasome targeting. p53 fluctuates between latent and active (DNA-binding) conformations and is differentially activated through post-translational modifications including phosphorylation and acetylation. Mutations in the DNA-binding domain (DBD, amino acids 110-286) of p53 can compromise energetically favorable association with *cis* elements and are implicated in several human cancers.

CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1; Trp53 (mouse) mapping to 11 B3.

SOURCE

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

Blocking peptide available for competition studies, sc-1314 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p53 (N-19) is recommended for detection of p53 of human and, to a lesser extent, 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 (h): sc-29435, p53 siRNA (m): sc-29436, sc-45917p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V and p53 shRNA (m) Lentiviral Particles: sc-29436-V.

Molecular Weight of p53: 53 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or BT-20 cell lysate: sc-2223.

RESEARCH USE

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

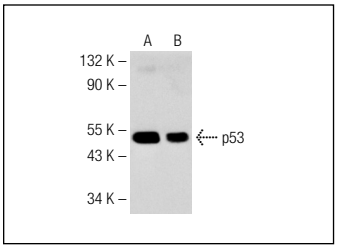
PROTOCOLS

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



Western blot analysis of p53 expression in mouse LacZ whole cell lysates (**A**,**B**). Antibodies tested include p53 (N-19): sc-1314 (**A**) and p53 (E-19): sc-1315 (**B**).

SELECT PRODUCT CITATIONS

1. Brambilla, E., et al. 1998. p53 mutant immunophenotype and deregulation of p53 transcription pathway (Bcl2, Bax, and Waf1) in precursor bronchial lesions of lung cancer. Clin. Cancer Res. 4: 1609-1618.
2. Hendrix, S.W., et al. 1998. Differential response of basal keratinocytes in a human skin equivalent to ultraviolet irradiation. Arch. Dermatol. Res. 290: 420-424.
3. Urbanek, K., et al. 2005. Myocardial regeneration by activation of multipotent cardiac stem cells in ischemic heart failure. Proc. Natl. Acad. Sci. USA 102: 8692-8697.
4. Lee, M.H., et al. 2006. SUMO-specific protease SUSP4 positively regulates p53 by promoting Mdm2 self-ubiquitination. Nat. Cell Biol. 8: 1424-1431.
5. Di Ventura, B., et al. 2008. Reconstitution of Mdm2-dependent post-translational modifications of p53 in yeast. PLoS ONE 3: e1507.
6. Schreck, I., et al. 2009. Influence of aryl hydrocarbon- (Ah) receptor and genotoxins on DNA repair gene expression and cell survival of mouse hepatoma cells. Toxicology 259: 91-96.
7. Campos-Vega, R., et al. 2012. Human gut flora-fermented nondigestible fraction from cooked bean *(Phaseolus vulgaris L.)* modifies protein expression associated with apoptosis, cell cycle arrest, and proliferation in human adenocarcinoma colon cancer cells. J. Agric. Food Chem. 60: 12443-12450.
8. Huang, Y., et al. 2013. Phospho-ΔNp63α/microRNA feedback regulation in squamous carcinoma cells upon cisplatin exposure. Cell Cycle 12: 684-697.