

p53RFP/IBRDC2 (E-20): sc-33015

BACKGROUND

p53 is the most commonly mutated gene in human cancer identified to date. Expression of p53 leads to inhibition of cell growth by preventing progression of cells from G₁S phase of the cell cycle. Most importantly, p53 functions to cause arrest of cells in the G₁ phase of the cell cycle following any exposure of cells to DNA-damaging agents. The MDM2 (murine double minute-2) protein was initially identified as an oncogene in a murine transformation system. MDM2 functions to bind p53 and block p53-mediated transactivation of cotransfected reporter constructs. The MDM2 gene is amplified in a high percentage of human sarcomas that retain wildtype p53 and tumor cells that overexpress MDM2 can tolerate high levels of p53 expression. Another p53 target protein is the p53-inducible RING finger protein (p53RFP), an auto-ubiquitinated protein acting as an E3 ubiquitin ligase. p53RFP, also designated IBRDC2 in mouse and rat, receives ubiquitin from specific E2 ubiquitin-conjugating enzymes and transfers it to substrates that promote their degradation by the proteasome. p53RFP may mediate re-entry into the cell cycle.

REFERENCES

1. Vogelstein, B. 1990. Cancer. A deadly inheritance. *Nature* 348: 681-682.
2. Hollstein, M., et al. 1991. p53 mutations in human cancers. *Science* 253: 49-53.
3. Kastan, M.B., et al. 1991. Participation of p53 protein in the cellular response to DNA damage. *Cancer Res.* 51: 6304-6311.
4. Fakharzadeh, S.S., et al. 1991. Tumorigenic potential associated with enhanced expression of a gene that is amplified in a mouse tumor cell line. *EMBO J.* 10: 1565-1569.
5. Oliner, J.D., et al. 1993. Oncoprotein MDM2 conceals the activation domain of tumour suppressor p53. *Nature* 362: 857-860.
6. Chen, C.Y., et al. 1994. Interactions between p53 and MDM2 in a mammalian cell cycle checkpoint pathway. *Proc. Natl. Acad. Sci. USA* 91: 2684-2688.
7. Ng, CC. et al. 2003. p53RFP, a p53-inducible RING-finger protein, regulates the stability of p21WAF1. *Oncogene.* 22: 4449-4458.
8. Nakamura, Y. et al. 2004. Isolation of p53-target genes and their functional analysis. *Cancer. Sci.* 95: 7-11.
9. SWISS-PROT/TrEMBL (Q7Z419). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: RNF144B (human) mapping to 6p22.3; Rnf144b (mouse) mapping to 13 A5.

SOURCE

p53RFP/IBRDC2 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of p53RFP 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-33015 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p53RFP/IBRDC2 (E-20) is recommended for detection of p53RFP of human origin and IBRDC2 of mouse and rat 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 p53RFP siRNA (h): sc-44824, p53RFP siRNA (m): sc-44825, p53RFP shRNA Plasmid (h): sc-44824-SH, p53RFP shRNA Plasmid (m): sc-44825-SH, p53RFP shRNA (h) Lentiviral Particles: sc-44824-V and p53RFP shRNA (m) Lentiviral Particles: sc-44825-V.

Molecular Weight of p53RFP/IBRDC2: 34 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138, MCF7 nuclear extract: sc-2149 or T-47D cell lysate: sc-2293.

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ 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™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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



Try **p53RFP (U-16): sc-101247**, our highly recommended monoclonal alternative to p53RFP/IBRDC2 (E-20).