SANTA CRUZ BIOTECHNOLOGY, INC.

# p53RFP/IBRDC2 (H-75): sc-67014

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The Power to Question

## 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 $G_1$ to S phase of the cell cycle. Most importantly, p53 functions to cause arrest of cells in the $G_1$ 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-ubiquitinylated 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, C.C., 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.


## CHROMOSOMAL LOCATION

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

## SOURCE

p53RFP/IBRDC2 (H-75) is a rabbit polyclonal antibody raised against amino acids 121-195 mapping within an internal region 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.

## APPLICATIONS

p53RFP/IBRDC2 (H-75) is recommended for detection of p53RFP of human origin and, to a lesser extent, IBRDC2 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).

p53RFP/IBRDC2 (H-100) is also recommended for detection of p53RFP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for p53RFP siRNA (h): sc-44824, IBRDC2 siRNA (m): sc-44825, p53RFP shRNA Plasmid (h): sc-44824-SH, IBRDC2 shRNA Plasmid (m): sc-44825-SH, p53RFP shRNA (h) Lentiviral Particles: sc-44824-V and IBRDC2 shRNA (m) Lentiviral Particles: sc-44825-V.

Molecular Weight of p53RFP/IBRDC2: 34 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS


1. Sa, G., et al. 2009. GD3, an overexpressed tumor-derived ganglioside, mediates the apoptosis of activated but not resting T cells. Cancer Res. 69: 3095-3104.


## 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.