

## R2/p53R2 (C-18): sc-10843

### BACKGROUND

The p53 gene is a highly characterized tumor suppressor that is often inactivated in various human cancers. p53 is a transcription factor that mediates cell cycle arrest and apoptosis by binding to DNA and activating the transcription of specific genes. p53 is also thought to be involved in DNA repair by the transcriptional activation of a ribonucleotide reductase gene, p53R2, after exposure to genotoxic stresses. p53R2 displays a significant similarity to ribonucleotide reductase small subunit (R2), and the expression of R2 is elevated at the onset of the S-phase of the cell cycle. However, only p53R2 expression is induced in response to ultraviolet and gamma-irradiation and adriamycin treatment. p53R2 translocates to the nucleus upon DNA damage, and subsequently, supplies an immediate pool of dNTPs necessary for DNA repair.

### CHROMOSOMAL LOCATION

Genetic locus: RRM2B (human) mapping to 8q22.3, RRM2 (human) mapping to 2p25.1; Rrm2b (mouse) mapping to 15 B3.1, Rrm2 (mouse) mapping to 12 A1.3.

### SOURCE

R2/p53R2 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of p53R2 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-10843 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### 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.

### APPLICATIONS

R2/p53R2 (C-18) is recommended for detection of p53R2 and R2 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).

R2/p53R2 (C-18) is also recommended for detection of p53R2 and R2 in additional species, including equine, canine, bovine, porcine and avian.

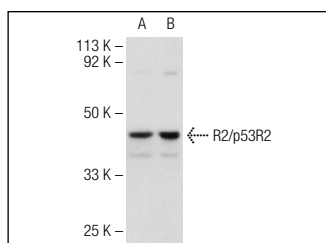
Molecular Weight of R2/p53R2: 45 kDa.

Positive Controls: p53R2 (h): 293T Lysate: sc-111702, MCF7 whole cell lysate: sc-2206 or SW480 cell lysate: sc-2219.

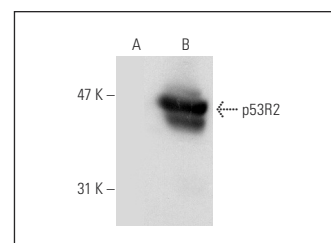
### RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

### DATA



R2/p53R2 (C-18): sc-10843. Western blot analysis of R2/p53R2 expression in SW480 (A) and MCF7 (B) whole cell lysates.



R2/p53R2 (C-18): sc-10843. Western blot analysis of p53R2 expression in non-transfected: sc-117752 (A) and human p53R2 transfected: sc-111702 (B) 293T whole cell lysates.

### SELECT PRODUCT CITATIONS

- Tudzarova-Trajkovska, S., et al. 2003. Strong induction of p73 protein *in vivo* coincides with the onset of apoptosis in rat liver after treatment with the hepatocarcinogen N-nitrosomorpholine (NNM). *J. Cell. Biochem.* 90: 837-855.
- Vayssade, M., et al. 2005. p73 functionally replaces p53 in adriamycin-treated, p53-deficient breast cancer cells. *Int. J. Cancer* 116: 860-869.
- Eaton, J.S., et al. 2007. Ataxia-telangiectasia mutated kinase regulates ribonucleotide reductase and mitochondrial homeostasis. *J. Clin. Invest.* 117: 2723-2734.
- Huang, Y.H., et al. 2009. Pluripotency of mouse spermatogonial stem cells maintained by IGF-1- dependent pathway. *FASEB J.* 23: 2076-2087.
- Allen, M.D., et al. 2014. Prognostic and therapeutic impact of argininosuccinate synthetase 1 control in bladder cancer as monitored longitudinally by PET imaging. *Cancer Res.* 74: 896-907.



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Try **R2/p53R2 (F-9): sc-376973** or **p53R2 (B-10): sc-137175**, our highly recommended monoclonal alternatives to R2/p53R2 (C-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **R2/p53R2 (F-9): sc-376973**.