

# p-Raf-1 (Tyr 340/341): sc-16806

## BACKGROUND

Raf-1 is a ubiquitously expressed cytoplasmic protein with intrinsic Serine/Threonine kinase activity. Raf-1, or c-Raf, is the cellular homolog of v-Raf, the product of the transforming gene of the 3,611 strain of murine sarcoma virus. The unregulated kinase activity of the v-Raf protein is associated with cellular transformation and mitogenesis. Raf-1 is normally suppressed by its regulatory N-terminal domain. Raf-1 is activated in response to a variety of tyrosine kinase receptors as well as in response to pp60v-Src expression. Specifically, Raf-1 is phosphorylated in the catalytic domain at Ser 338 and, to a lesser extent, Ser 339. This phosphorylation requires the co-activation of PI 3-kinase and the Ras signaling pathway. Raf-1 is also phosphorylated on Tyr 340 and 341, which induces the phosphorylation of MEK. Phosphorylation of Ser 621 is essential for the catalytic activity of Raf-1 and down-regulation by c-AMP-dependent protein kinase A (PKA). PKA also phosphorylates Raf-1 on Ser 43 and Ser 259. PKA phosphorylation of Ser 259 inhibits Raf-1 and decreases the phosphorylation necessary for Raf-1 activation at Ser 338.

## CHROMOSOMAL LOCATION

Genetic locus: RAF1 (human) mapping to 3p25.2; Raf1 (mouse) mapping to 6 E3.

## SOURCE

p-Raf-1 (Tyr 340/341) is available as either goat (sc-16806) or rabbit (sc-16806-R) polyclonal affinity purified antibody raised against a short amino acid sequence dually Tyr 340 and Tyr 341 phosphorylated Raf-1 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-16806 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-Raf-1 (Tyr 340/341) is recommended for detection of Tyr 340 and 341 dually phosphorylated Raf-1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Raf-1 (Tyr 340/341) is also recommended for detection of correspondingly phosphorylated Raf-1 in additional species, including equine, canine, bovine and avian.

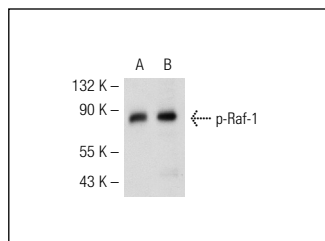
Suitable for use as control antibody for Raf-1 siRNA (h): sc-29462, Raf-1 siRNA (m): sc-29463, Raf-1 shRNA Plasmid (h): sc-29462-SH, Raf-1 shRNA Plasmid (m): sc-29463-SH, Raf-1 shRNA (h) Lentiviral Particles: sc-29462-V and Raf-1 shRNA (m) Lentiviral Particles: sc-29463-V.

Molecular Weight of p-Raf-1: 74 kDa.

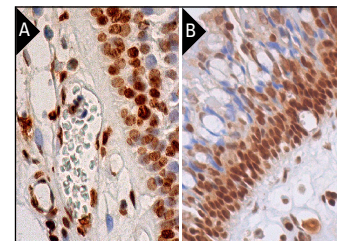
## STORAGE

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

## DATA



p-Raf-1 (Tyr 340/341)-R: sc-16806-R. Western blot analysis of Raf-1 phosphorylation in non-transfected: sc-110760 (A) and human Raf-1 transfected: sc-158911 (B) 293 whole cell lysates.



Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing nuclear staining of respiratory epithelial cells. Antibody tested include: p-Raf-1 (Tyr 340/341): sc-16806 (A) and p-Raf-1 (Tyr 340/341)-R: sc-16806-R (B).

## SELECT PRODUCT CITATIONS

1. Bisht, K.S., et al. 2003. Geldanamycin and 17-allylamino-17-demethoxy-geldanamycin potentiate the *in vitro* and *in vivo* radiation response of cervical tumor cells via the heat shock protein 90-mediated intracellular signaling and cytotoxicity. *Cancer Res.* 63: 8984-8995.
2. Zhang, D., et al. 2004. Dual regulation of MMP-2 expression by the type 1 Insulin-like growth factor receptor: the phosphatidylinositol 3-kinase/Akt and Raf/ERK pathways transmit opposing signals. *J. Biol. Chem.* 279: 19683-19690.
3. Haraguchi, T., et al. 2007. Controlled release of basic fibroblast growth factor from gelatin hydrogel sheet improves structural and physiological properties of vein graft in rat. *Arterioscler. Thromb. Vasc. Biol.* 27: 548-555.
4. Zhao, Y.S., et al. 2012. B-elemene inhibits Hsp90/Raf-1 molecular complex inducing apoptosis of glioblastoma cells. *J. Neurooncol.* 107: 307-314.
5. Wang, H.C., et al. 2015. Extra-nuclear signaling pathway involved in progesterone-induced up-regulations of p21<sup>kip1</sup> and p27<sup>kip1</sup> in male rat aortic smooth muscle cells. *PLoS ONE* 10: e0125903.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.