

# RIOK2 (I-21): sc-130254

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. RIOK2 (RIO kinase 2) is a 552 amino acid protein that contains one protein kinase domain and belongs to the RIO sub-family of atypical Ser/Thr protein kinases. RIOK2 functions to catalyze the ATP-dependent phosphorylation of target proteins and is thought to play an important role in ribosome biogenesis and cell cycle progression.

## REFERENCES

- Hanks, S.K., Quinn, A.M. and Hunter, T. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. *Science* 241: 42-52.
- Hunter, T. 1991. Protein kinase classification. *Meth. Enzymol.* 200: 3-37.
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- Jin, J., Smith, F.D., Stark, C., Wells, C.D., Fawcett, J.P., Kulkarni, S., Metalnikov, P., O'Donnell, P., Taylor, P., Taylor, L., Zougman, A., Woodgett, J.R., Langeberg, L.K., Scott, J.D. and Pawson, T. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. *Curr. Biol.* 14: 1436-1450.
- LaRonde-LeBlanc, N. and Wlodawer, A. 2005. The RIO kinases: an atypical protein kinase family required for ribosome biogenesis and cell cycle progression. *Biochim. Biophys. Acta* 1754: 14-24.
- LaRonde-LeBlanc, N. and Wlodawer, A. 2005. A family portrait of the RIO kinases. *J. Biol. Chem.* 280: 37297-37300.

## CHROMOSOMAL LOCATION

Genetic locus: RIOK2 (human) mapping to 5q15.

## SOURCE

RIOK2 (I-21) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of RIOK2 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

RIOK2 (I-21) is recommended for detection of RIOK2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RIOK2 siRNA (h): sc-91773, RIOK2 shRNA Plasmid (h): sc-91773-SH and RIOK2 shRNA (h) Lentiviral Particles: sc-91773-V.

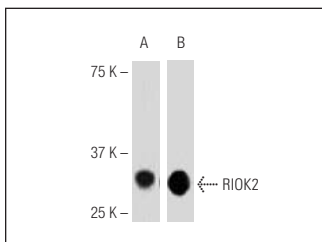
Molecular Weight of RIOK2: 63 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 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 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).

## DATA



RIOK2 (I-21): sc-130154. Western blot analysis of RIOK2 expression in Jurkat (A) and T-47D (B) whole cell lysates.

## RESEARCH USE

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