SANTA CRUZ BIOTECHNOLOGY, INC.

VRK1 (Y-16): sc-15239

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human vaccina-related kinases 1 and 2 (VRK1/2) are NLS-containing, serine/threonine poxvirus-related kinases that are similar to casein kinase I family members. These VRK kinases phosphorylate transcription factors related to stress responses, such as p53. As an upstream regulator of p53, VRK1 is capable of phosphorylating phosvitin, casein, histone 2b and myelin basic protein. VRK1 colocalizes with ATF-2 in the nucleus and can form a stable complex. VRK1 phosphorylates ATF-2 mainly on Thr-73, stabilizing the ATF-2 protein and increasing its intracellular level. VRK1 phosphorylates human p53 in Thr-18 and disrupts p53-MDM2 interaction *in vitro*. VRK1 phosphorylates c-Jun in Ser-63 and Ser-73 *in vitro* (the same residues targeted by the N-terminal kinase of c-Jun (JNK)), and activates c-Jun dependent transcription.

CHROMOSOMAL LOCATION

Genetic locus: VRK1 (human) mapping to 14q32.2; Vrk1 (mouse) mapping to 12 F1.

SOURCE

VRK1 (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VRK1 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-15239 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.

APPLICATIONS

VRK1 (Y-16) is recommended for detection of VRK1 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).

VRK1 (Y-16) is also recommended for detection of VRK1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for VRK1 siRNA (h): sc-106702, VRK1 siRNA (m): sc-155227, VRK1 shRNA Plasmid (h): sc-106702-SH, VRK1 shRNA Plasmid (m): sc-155227-SH, VRK1 shRNA (h) Lentiviral Particles: sc-106702-V and VRK1 shRNA (m) Lentiviral Particles: sc-155227-V.

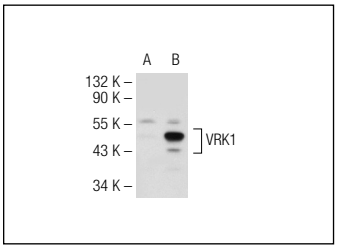
Molecular Weight of VRK1: 47 kDa.

Positive Controls: VRK1 (h): 293T Lysate: sc-111736, VRK1 (m): 293T Lysate: sc-124592 or HeLa whole cell lysate: sc-2200.

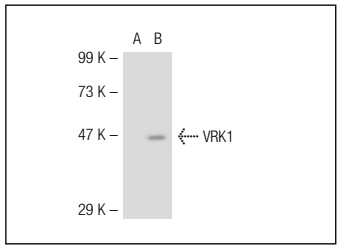
RECOMMENDED SECONDARY REAGENTS

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



VRK1 (Y-16): sc-15239. Western blot analysis of VRK1 expression in non-transfected: sc-117752 (**A**) and human VRK1 transfected: sc-111736 (**B**) 293T whole cell lysates.



VRK1 (Y-16): sc-15239. Western blot analysis of VRK1 expression in non-transfected: sc-117752 (**A**) and mouse VRK1 transfected: sc-124592 (**B**) 293T whole cell lysates.

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.