

# VRK1 (N-17): sc-15238

## BACKGROUND

Human vaccinia-related kinases 1 and 2 (VRK1,2) are NLS-containing, serine/threonine poxvirus-related kinases that are similar to casein kinase-1 family members. These VRK kinases phosphorylate transcription factors related to stress responses, such as p53. As an upstream regulator of p53, VRK-1 is capable of phosphorylating phosphoinositide, casein, histone 2 $\beta$  and myelin basic protein. VRK1 co-localizes with ATF2 in the nucleus and can form a stable complex. VRK1 phosphorylates ATF2 mainly on Thr-73, stabilizing the ATF2 protein and increasing its intracellular level. VRK1 phosphorylates human p53 in Thr18 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; Vrkl (mouse) mapping to 12 F1.

## SOURCE

VRK1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VRK1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15238 P, (100  $\mu$ g 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 (N-17) 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  $\mu$ g per 100-500  $\mu$ g 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).

VRK1 (N-17) 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.

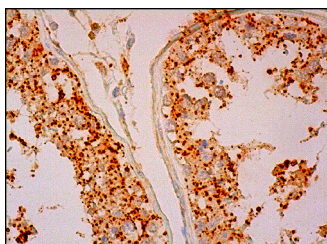
Molecular Weight of VRK1: 47 kDa.

Positive Controls: 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



VRK1 (N-17): sc-15238. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts.

## 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.


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Try **VRK1 (A-11): sc-271061** or **VRK1 (1F6): sc-101554**, our highly recommended monoclonal alternatives to VRK1 (N-17).