

Product Information

Anti-VRK1 (C-terminal)

produced in rabbit, affinity isolated antibody

Product Number **V1890**

Product Description

Anti-VRK1 (C-terminal) is developed in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human VRK1 (GenelD: 7443), conjugated to KLH. The corresponding sequence is not conserved in mouse and rat VRK1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-VRK1 (C-terminal) specifically recognizes human VRK1. The antibody may be used in various immunochemical techniques including immunoblotting (~45 kDa). Detection of the VRK1 band by immunoblotting is specifically inhibited by the VRK1 immunizing peptide.

The vaccinia related kinases (VRKs) comprise a new family of ubiquitously expressed Ser/Thr protein kinases with homology to the vaccinia virus B kinase.^{1,2} The VRK orthologues encoded by *C. elegans* and *Drosophila melanogaster* play an essential role in cell division. Mammalian genome encodes three VRK proteins, VRK1-3, that differ in their subcellular distribution and enzymatic activity.² VRK1 has been reported to be localized to the nucleus and is enzymatically active. VRK1 is able to phosphorylate and regulate the activity of transcription factors implicated in stress-related cellular responses, including c-Jun, ATF2, and the BAF protein required for nuclear envelope assembly.³⁻⁶ Human VRK1 has been shown to phosphorylate p53 at Thr¹⁸ resulting in its stabilization by preventing the p53-Hdm2 interaction, and activation of p53-dependent gene transcription.³ In turn, the stable accumulation of p53 induces a proteolytic degradation of VRK1 by an autoregulatory mechanism, via the endosome-lysosome pathway. PI3K interacts and phosphorylates VRK1 in a signaling pathway that induces Golgi fragmentation.⁷ Inactivation of VRK1 causes a block in cell cycle progression, consistent with its role in highly proliferating cells, during development.⁸

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For continuous use, the product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1.0-2.0 µg/mL is recommended using a MCF7 cell lysate.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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VS,ER,TD,KAA,PHC,MAM 04/19-1