SANTA CRUZ BIOTECHNOLOGY, INC.

NDR1/2 (B-16): sc-46180

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The nuclear Dbf2-related kinases (NDR1 and NDR2) participate in the regulation of cell division and morphology, and may be implicated in tumor progression. NDR1 and NDR2 share 86% amino acid identity, but differ in their expression pattern. NDR1 localizes to the nucleus, while NDR2 exhibits punctate cytoplasmic distribution. Also, NDR1 expression appears highest in spleen, lung and thymus, whereas NDR2 shows highest expression in the gastrointestinal tract. However, both NDR1 and NDR2 are regulated by phosphorylation and by the Ca^{2+}-binding protein S100B. NDR1 and NDR2 may also play a role in the HIV-1 life cycle. Both proteins are cleaved by the HIV-1 protease (PR), which inhibits their enzymatic activity and alters the subcellular localization of NDR2. The genes encoding human NDR1 and NDR2 map to chromosomes 6p21.31 and 12p11.23, respectively.

REFERENCES

1. Tamaskovic, R., et al. 2003. Mechanism of Ca^{2+}-mediated regulation of NDR protein kinase through autophosphorylation and phosphorylation by an upstream kinase. J. Biol. Chem. 278: 6710-6718.
2. Stegert, M.R., et al. 2004. Regulation of NDR2 protein kinase by multi-site phosphorylation and the S100B calcium-binding protein. J. Biol. Chem. 279: 23806-23812.
3. Devroe, E., et al. 2004. Human Mob proteins regulate the NDR1 and NDR2 serine-threonine kinases. J. Biol. Chem. 279: 24444-24451.
4. Bichsel, S.J., et al. 2004. Mechanism of activation of NDR (nuclear Dbf2-related) protein kinase by the hMOB1 protein. J. Biol. Chem. 279: 35228-35235.
5. Devroe, E., et al. 2005. HIV-1 incorporates and proteolytically processes human NDR1 and NDR2 serine-threonine kinases. Virology 331: 181-189.

CHROMOSOMAL LOCATION

Genetic locus: STK38 (human) mapping to 6p21.31, STK38L (human) mapping to 12p11.23; Stk38 (mouse) mapping to 17 A3.3, Stk38l (mouse) mapping to 6 G3.

SOURCE

NDR1/2 (B-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NDR2 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-46180 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

NDR1/2 (B-16) is recommended for detection of NDR1 and NDR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NDR1/2 (B-16) is also recommended for detection of NDR1 and NDR2 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of NDR1/2: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or RAW 264.7 whole cell lysate: sc-2211.

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) 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.

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.