

# NDR1 (A-8): sc-365555

## 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  $\text{Ca}^{2+}$ -binding protein S-100B. 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  $\text{Ca}^{2+}$ -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 S-100B 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.

## CHROMOSOMAL LOCATION

Genetic locus: STK38 (human) mapping to 6p21.31; Stk38 (mouse) mapping to 17 A3.3.

## SOURCE

NDR1 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-21 at the N-terminus of NDR1 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NDR1 (A-8) is available conjugated to agarose (sc-365555 AC), 500  $\mu\text{g}/0.25$  ml agarose in 1 ml, for IP; to HRP (sc-365555 HRP), 200  $\mu\text{g}/\text{ml}$ , for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365555 PE), fluorescein (sc-365555 FITC), Alexa Fluor® 488 (sc-365555 AF488), Alexa Fluor® 546 (sc-365555 AF546), Alexa Fluor® 594 (sc-365555 AF594) or Alexa Fluor® 647 (sc-365555 AF647), 200  $\mu\text{g}/\text{ml}$ , for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365555 AF680) or Alexa Fluor® 790 (sc-365555 AF790), 200  $\mu\text{g}/\text{ml}$ , for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365555 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

NDR1 (A-8) is recommended for detection of NDR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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).

NDR1 (A-8) is also recommended for detection of NDR1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for NDR1 siRNA (h): sc-44366, NDR1 siRNA (m): sc-44367, NDR1 shRNA Plasmid (h): sc-44366-SH, NDR1 shRNA Plasmid (m): sc-44367-SH, NDR1 shRNA (h) Lentiviral Particles: sc-44366-V and NDR1 shRNA (m) Lentiviral Particles: sc-44367-V.

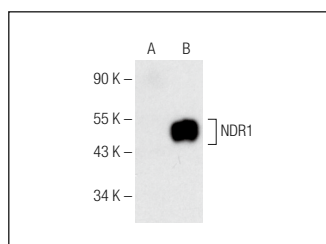
Molecular Weight of NDR1: 54 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NDR1 (h): 293T Lysate: sc-158754 or U-937 nuclear extract: sc-2156.

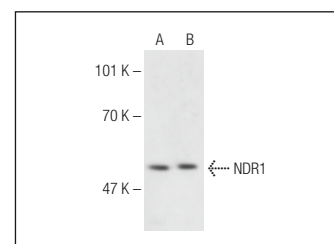
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



NDR1 (A-8): sc-365555. Western blot analysis of NDR1 expression in non-transfected: sc-117752 (A) and human NDR1 transfected: sc-158754 (B) 293T whole cell lysates.



NDR1 (A-8): sc-365555. Western blot analysis of NDR1 expression in U-937 (A) and HEL 92.1.7 (B) nuclear extracts.

## STORAGE

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

## RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA