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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

NDR1 (h): 293T Lysate: sc-158754

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 Ca²⁺-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., Bichsel, S.J., Rogniaux, H., Stegeret, M.R. and Hemmings, B.A. 2003. Mechanism of Ca²⁺-mediated regulation of NDR protein kinase through autophosphorylation and phosphorylation by an upstream kinase. *J. Biol. Chem.* 278: 6710-6718.
2. Stegert, M.R., Tamaskovic, R., Bichsel, S.J., Hergovich, A. and Hemmings, B.A. 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., Erdjument-Bromage, H., Tempst, P. and Silver, P.A. 2004. Human Mob proteins regulate the NDR1 and NDR2 serine-threonine kinases. *J. Biol. Chem.* 279: 24444-24451.
4. Bichsel, S.J., Tamaskovic, R., Stegert, M.R. and Hemmings, B.A. 2004. Mechanism of activation of NDR (nuclear Dbf2-related) protein kinase by the hMOB1 protein. *J. Biol. Chem.* 279: 35228-35235.
5. Devroe, E., Silver, P.A. and Engelman, A. 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.

PRODUCT

NDR1 (h): 293T Lysate represents a lysate of human NDR1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NDR1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive NDR1 antibodies. Recommended use: 10-20 µl per lane.

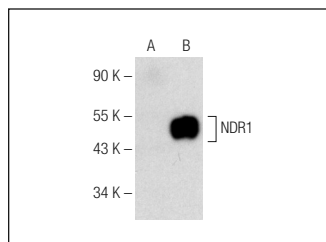
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NDR1 (A-8): sc-365555 is recommended as a positive control antibody for Western Blot analysis of enhanced human NDR1 expression in NDR1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



NDR1 (A-B): 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.