

Npl4 (D-1): sc-365796

BACKGROUND

The Npl4 gene encodes the 608 amino acid, endoplasmic reticulum and nuclear membrane protein Npl4 that forms a complex with p97/Cdc48p and Ufd1p. This complex plays a role in IP3 receptor processing by recognizing ubiquitinated IP3 receptors in the endoplasmic reticulum and delivering them to the proteasome for degradation. The Npl4 protein contains eight potential N-myristoylation sites, five potential N-glycosylation sites, several phosphorylation sites, and a C-terminal zinc finger motif. This protein is 96% homologous to the rat Npl4 protein, 44% homologous to the *Caenorhabditis elegans* Npl4 protein, and 34% homologous to the *Saccharomyces cerevisiae* Npl4 protein. Mutations in the Npl4 gene cause defects in nuclear envelope morphology, nuclear protein import, and nuclear poly(A) RNA export.

CHROMOSOMAL LOCATION

Genetic locus: NPLOC4 (human) mapping to 17q25.3; Nploc4 (mouse) mapping to 11 E2.

SOURCE

Npl4 (D-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Npl4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Npl4 (D-1) is available conjugated to agarose (sc-365796 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365796 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365796 PE), fluorescein (sc-365796 FITC), Alexa Fluor® 488 (sc-365796 AF488), Alexa Fluor® 546 (sc-365796 AF546), Alexa Fluor® 594 (sc-365796 AF594) or Alexa Fluor® 647 (sc-365796 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365796 AF680) or Alexa Fluor® 790 (sc-365796 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Npl4 (D-1) is recommended for detection of Npl4 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for Npl4 siRNA (h): sc-61227, Npl4 siRNA (m): sc-61228, Npl4 shRNA Plasmid (h): sc-61227-SH, Npl4 shRNA Plasmid (m): sc-61228-SH, Npl4 shRNA (h) Lentiviral Particles: sc-61227-V and Npl4 shRNA (m) Lentiviral Particles: sc-61228-V.

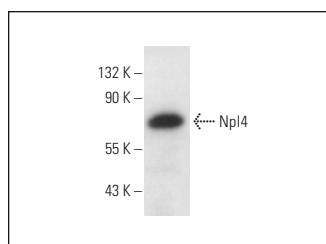
Molecular Weight of Npl4: 69 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-BR-3 cell lysate: sc-2218 or PC-3 cell lysate: sc-2220.

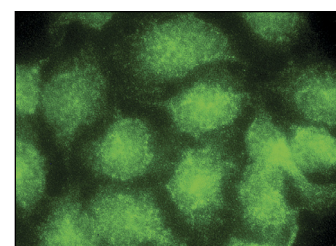
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Npl4 (D-1): sc-365796. Western blot analysis of Npl4 expression in SK-BR-3 whole cell lysate.



Npl4 (D-1): sc-365796. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Zhong, Y., et al. 2015. Identification of ERAD components essential for dislocation of the null Hong Kong variant of α -1-antitrypsin (NHK). *Biochem. Biophys. Res. Commun.* 458: 424-428.
- Skrott, Z., et al. 2019. Disulfiram's anti-cancer activity reflects targeting Npl4, not inhibition of aldehyde dehydrogenase. *Oncogene* 38: 6711-6722.
- Majera, D., et al. 2020. Targeting the Npl4 adaptor of p97/VCP segregase by disulfiram as an emerging cancer vulnerability evokes replication stress and DNA damage while silencing the ATR pathway. *Cells* 9: 469.
- Wang, D., et al. 2021. ATM-phosphorylated SPOP contributes to 53BP1 exclusion from chromatin during DNA replication. *Sci. Adv.* 7: eabd9208.
- Gao, X., et al. 2022. Disulfiram/copper induces immunogenic cell death and enhances CD47 blockade in hepatocellular carcinoma. *Cancers* 14: 4715.
- Lu, G., et al. 2022. WIPI2 positively regulates mitophagy by promoting mitochondrial recruitment of VCP. *Autophagy*. E-published.

STORAGE

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

PROTOCOLS

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

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