SANTA CRUZ BIOTECHNOLOGY, INC.

CLN2 (G-3): sc-393961

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CLN2, also known as tripeptidyl peptidase I (TTP-I), a member of the family of serine-carboxyl proteinases (S53), plays a crucial role in lysosomal protein degradation, and a deficiency in this enzyme leads to fatal neurodegenerative disease. CLN2 is a lysosomal aminopeptidase that sequentially removes tripeptides from small polypeptides and also shows a minor endoprotease activity. In lysosomes, CLN2 proenzyme is converted into a mature enzyme with the assistance of another protease and is able to autoactivate in acidic pH *in vitro* via an unimolecular mechanism.

CHROMOSOMAL LOCATION

Genetic locus: TPP1 (human) mapping to 11p15.4; Tpp1 (mouse) mapping to 7 E3.

SOURCE

CLN2 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 504-531 near the C-terminus of CLN2 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CLN2 (G-3) is available conjugated to agarose (sc-393961 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393961 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393961 PE), fluorescein (sc-393961 FITC), Alexa Fluor® 488 (sc-393961 AF488), Alexa Fluor® 546 (sc-393961 AF546), Alexa Fluor® 594 (sc-393961 AF594) or Alexa Fluor® 647 (sc-393961 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393961 AF680) or Alexa Fluor® 790 (sc-393961 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393961 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CLN2 (G-3) is recommended for detection of CLN2 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 CLN2 siRNA (h): sc-45578, CLN2 siRNA (m): sc-45579, CLN2 shRNA Plasmid (h): sc-45578-SH, CLN2 shRNA Plasmid (m): sc-45579-SH, CLN2 shRNA (h) Lentiviral Particles: sc-45578-V and CLN2 shRNA (m) Lentiviral Particles: sc-45579-V.

Molecular Weight of mature CLN2: 48 kDa.

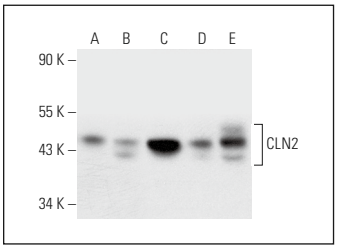
Molecular Weight of CLN2 precursor: 68 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, KNRK whole cell lysate: sc-2214 or Hep G2 cell lysate: sc-2227.

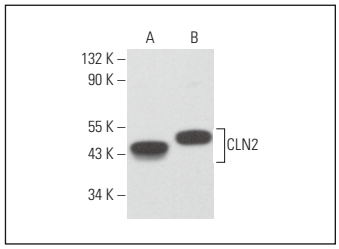
RECOMMENDED SUPPORT REAGENTS

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



CLN2 (G-3): sc-393961. Western blot analysis of CLN2 expression in JAR (**A**), CCRF-CEM (**B**), Hep G2 (**C**) and A-431 (**D**) whole cell lysates and rat liver tissue extract (**E**).



CLN2 (G-3): sc-393961. Western blot analysis of CLN2 expression in THP-1 (**A**) and KNRK (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mao, D., et al. 2019. VAMP associated proteins are required for autophagic and lysosomal degradation by promoting a PtdIns4P-mediated endosomal pathway. Autophagy 15: 1214-1233.
2. Davis, O.B., et al. 2021. NPC1-mTORC1 signaling couples cholesterol sensing to organelle homeostasis and is a targetable pathway in Niemann-Pick type C. Dev. Cell 56: 260-276.e7.
3. Tesla, R., et al. 2024. Benzoxazole-derivatives enhance progranulin expression and reverse the aberrant lysosomal proteome caused by GRN haploinsufficiency. Nat. Commun. 15: 6125.

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.

PROTOCOLS

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