SANTA CRUZ BIOTECHNOLOGY, INC.

PICOT (D-10): sc-390068

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PICOT, also known as GLRX3 (glutaredoxin 3), GRX3, GRX4, GLRX4, HUSSY-22, TXNL2 or TXNL3, is a 335 amino acid protein that contains one thioredoxin domain and two glutaredoxin domains. Localized to the cytoplasm and the cell cortex, PICOT is thought to play a role in regulating the thioredoxin system and may weakly interact with PKC θ (protein kinase C θ). Through its ability to regulate the thioredoxin pathway, PICOT inhibits cardiac hypertrophy (a thickening of the heart muscle usually caused by high blood pressure) by negatively regulating NFAT (nuclear factor of activated T-cells) signaling. Although PICOT contains one thioredoxin domain, it lacks the two redox-reactive cysteines that are required for catalytic activity, suggesting that PICOT lacks thioredoxin function. PICOT is expressed in testis, heart and spleen with lower levels detected in thymus, lung, colon, placenta and small intestine.

REFERENCES

1. Witte, S., et al. 2000. Inhibition of the c-Jun N-terminal kinase/AP-1 and NFκB pathways by PICOT, a novel protein kinase C-interacting protein with a thioredoxin homology domain. J. Biol. Chem. 275: 1902-1909.
2. Isakov, N., et al. 2000. PICOT-HD: a highly conserved protein domain that is often associated with thioredoxin and glutaredoxin modules. Trends Biochem. Sci. 25: 537-539.
3. Babichev, Y. and Isakov, N. 2001. Tyrosine phosphorylation of PICOT and its translocation to the nucleus in response of human T cells to oxidative stress. Adv. Exp. Med. Biol. 495: 41-45.

CHROMOSOMAL LOCATION

Genetic locus: GLRX3 (human) mapping to 10q26.3; Glrx3 (mouse) mapping to 7 F4.

SOURCE

PICOT (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 31-69 near the N-terminus of PICOT of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PICOT (D-10) is available conjugated to agarose (sc-390068 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390068 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390068 PE), fluorescein (sc-390068 FITC), Alexa Fluor® 488 (sc-390068 AF488), Alexa Fluor® 546 (sc-390068 AF546), Alexa Fluor® 594 (sc-390068 AF594) or Alexa Fluor® 647 (sc-390068 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390068 AF680) or Alexa Fluor® 790 (sc-390068 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

PICOT (D-10) is recommended for detection of PICOT 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 PICOT siRNA (h): sc-76132, PICOT siRNA (m): sc-76133, PICOT shRNA Plasmid (h): sc-76132-SH, PICOT shRNA Plasmid (m): sc-76133-SH, PICOT shRNA (h) Lentiviral Particles: sc-76132-V and PICOT shRNA (m) Lentiviral Particles: sc-76133-V.

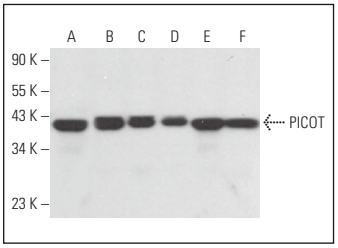
Molecular Weight of PICOT: 38 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, Raji whole cell lysate: sc-364236 or Hep G2 cell lysate: sc-2227.

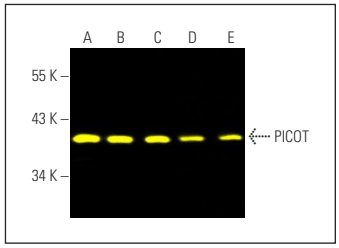
RECOMMENDED SUPPORT REAGENTS

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



PICOT (D-10): sc-390068. Western blot analysis of PICOT expression in Raji (**A**), c4 (**B**), WEHI-231 (**C**), M1 (**D**), Y79 (**E**) and Caki-1 (**F**) whole cell lysates.



PICOT (D-10) Alexa Fluor® 488: sc-390068 AF488. Direct fluorescent western blot analysis of PICOT expression in Caki-1 (**A**), HeLa (**B**), Hep G2 (**C**), Ramos (**D**) and Y79 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Mechoud, M.A., et al. 2020. Interaction between GMP synthase and either human GLRX3 or *Saccharomyces cerevisiae* GRX3/GRX4 converges in the regulation of Gcn2 pathway. Appl. Environ. Microbiol. 86: e00221-20.

STORAGE

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