SANTA CRUZ BIOTECHNOLOGY, INC.

PAO (C-3): sc-166185

BACKGROUND

Mammalian polyamine catabolism is under the control of two enzymes, spermidine/spermine N1-acetyltransferase and the flavin adenine dinucleotide-dependent polyamine oxidase (PAO). In the polyamine back-conversion pathway, spermine and spermidine are acetylated by SSAT-1 and then oxidized by PAO to produce spermidine and putrescine, respectively. The PAO protein regulates polyamine intracellular concentration and may act as a determinant of cellular sensitivity to the antitumor polyamine analogs. PAO contributes to β-alaline production via aldehyde dehydrogenase conversion of 3-amino-propanal. The PAO gene encodes more than five transcript variants which encode four active isoenzymes. The longest isoenzyme, PAOh1, represents a new addition to the polyamine metabolic pathway and may be a target for antineoplastic drug development.

CHROMOSOMAL LOCATION

Genetic locus: SMOX (human) mapping to 20p13; Smox (mouse) mapping to 2 F1.

SOURCE

PAO (C-3) is a mouse monoclonal antibody raised against amino acids 197-281 mapping within an internal region of PAO1 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.

PAO (C-3) is available conjugated to agarose (sc-166185 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166185 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166185 PE), fluorescein (sc-166185 FITC), Alexa Fluor® 488 (sc-166185 AF488), Alexa Fluor® 546 (sc-166185 AF546), Alexa Fluor® 594 (sc-166185 AF594) or Alexa Fluor® 647 (sc-166185 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166185 AF680) or Alexa Fluor® 790 (sc-166185 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PAO (C-3) is recommended for detection of PAO1, PAO2, PAO4 and PAO5 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), immunohistochemistry (including paraffin-embedded sections) (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 PAO siRNA (h): sc-44540, PAO siRNA (m): sc-44541, PAO shRNA Plasmid (h): sc-44540-SH, PAO shRNA Plasmid (m): sc-44541-SH, PAO shRNA (h) Lentiviral Particles: sc-44540-V and PAO shRNA (m) Lentiviral Particles: sc-44541-V.

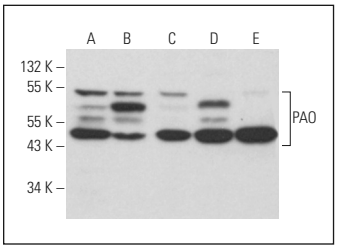
Molecular Weight of PAO: 62 kDa.

Positive Controls: A549 cell lysate: sc-2413, MCF7 whole cell lysate: sc-2206 or HT-1080 whole cell lysate: sc-364183.

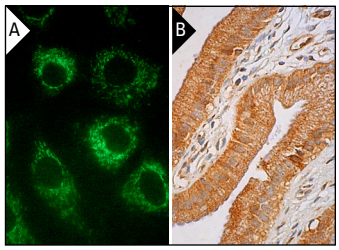
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PAO (C-3): sc-166185. Western blot analysis of PAO expression in HT-1080 (**A**), A549 (**B**), MCF7 (**C**), RAW 264.7 (**D**) and IB4 (**E**) whole cell lysates.



PAO (C-3): sc-166185. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Shukla-Dave, A., et al. 2016. Ornithine decarboxylase is sufficient for prostate tumorigenesis via androgen receptor signaling. Am. J. Pathol. 186: 3131-3145.
2. Lin, H., et al. 2022. Decoding the transcriptome of denervated muscle at single-nucleus resolution. J. Cachexia Sarcopenia Muscle. E-published.

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.