SANTA CRUZ BIOTECHNOLOGY, INC.

P504S (2A10F3): sc-81710

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

P504S, also known as AMACR (α-methylacyl-CoA racemase), 2-methylacyl-CoA racemase or RACE, is an enzyme belonging to the caiB/baiF CoA-transferase family. Localizing to the peroxisome and mitochondrion, P504S plays a role in the metabolism of branched-chain fatty acids and bile acid intermediates. More specifically, P504S catalyzes the conversion of pristanoyl-CoA and C27-bile acyl-CoAs to their (S)-stereoisomers which can then be degraded by peroxisomal β-oxidation. Mutations in the gene encoding P504S can lead to AMACR deficiency, a disease characterized by increased concentrations of pristanic acid that is associated with adult onset sensory motor neuropathy, and/or CBAS4 (congenital bile acid synthesis defect type 4), a disorder characterized by intrahepatic cholestasis, absence of cholic acid from bile, neonatal jaundice and bile duct deficiency. In addition, P504S is overexpressed in prostate cancer and is believed to be functionally important for prostate cancer cell growth.

CHROMOSOMAL LOCATION

Genetic locus: AMACR (human) mapping to 5p13.2; Amacr (mouse) mapping to 15 A1.

SOURCE

P504S (2A10F3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 132-321 of P504S of human origin.

PRODUCT

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

P504S (2A10F3) is available conjugated to agarose (sc-81710 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-81710 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81710 PE), fluorescein (sc-81710 FITC), Alexa Fluor® 488 (sc-81710 AF488), Alexa Fluor® 546 (sc-81710 AF546), Alexa Fluor® 594 (sc-81710 AF594) or Alexa Fluor® 647 (sc-81710 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81710 AF680) or Alexa Fluor® 790 (sc-81710 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

P504S (2A10F3) is recommended for detection of P504S of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for P504S siRNA (h): sc-92063, P504S siRNA (m): sc-151968, P504S shRNA Plasmid (h): sc-92063-SH, P504S shRNA Plasmid (m): sc-151968-SH, P504S shRNA (h) Lentiviral Particles: sc-92063-V and P504S shRNA (m) Lentiviral Particles: sc-151968-V.

Molecular Weight of P504S predominant isoform: 42 kDa.

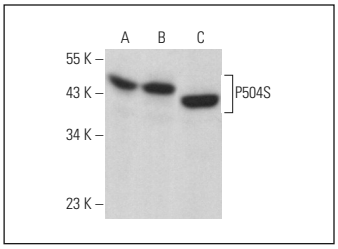
Molecular Weight of P504S other isoforms: 32/31/28/22 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

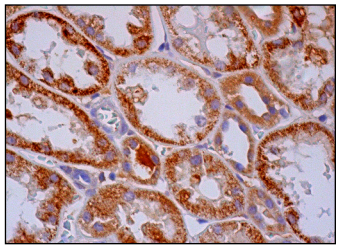
STORAGE

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

DATA



P504S (2A10F3): sc-81710. Western blot analysis of P504S expression in Hep G2 (**A**), Jurkat (**B**) and KNRK (**C**) whole cell lysates.



P504S (2A10F3): sc-81710. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Chauchereau, A., et al. 2011. Stemness markers characterize IGR-CaP1, a new cell line derived from primary epithelial prostate cancer. Exp. Cell Res. 317: 262-275.
2. Dabir, P.D., et al. 2012. Comparative analysis of three- and two-antibody cocktails to AMACR and basal cell markers for the immunohistochemical diagnosis of prostate carcinoma. Diagn. Pathol. 7: 81.
3. Tsutsumi, Y., et al. 2015. Combined treatment with Exendin-4 and metformin attenuates prostate cancer growth. PLoS ONE 10: e0139709.
4. Sui, X., et al. 2016. Prostate cancer metastasis to the distal phalanx of the left hallux: the first confirmed case and literature review. Oncol. Lett. 12: 1074-1078.
5. Zhu, J., et al. 2018. Epoxymicheliolide, a novelguaiane-type sesquiterpene lactone, inhibits NFκB/COX-2 signaling pathways by targeting leucine 281 and leucine 25 in IKKβ in renal cell carcinoma. Int. J. Oncol. 53: 987-1000.
6. Kawanami, T., et al. 2018. Selective androgen receptor modulator S42 suppresses prostate cancer cell proliferation. Endocrinology 159: 1774-1792.

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.