

P504S (G-8): sc-514408

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.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604489. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Lee, W.A. 2006. α -methylacyl-CoA-racemase expression in adenocarcinoma, dysplasia and non-neoplastic epithelium of the stomach. *Oncology* 71: 246-250.
3. Chen, W., et al. 2007. Molecular cloning and preliminary analysis of the human α -methylacyl-CoA racemase promoter. *Mol. Biol. Rep.* 36: 423-430.
4. Shilo, K., et al. 2007. α -methylacyl CoA racemase in pulmonary adenocarcinoma, squamous cell carcinoma, and neuroendocrine tumors: expression and survival analysis. *Arch. Pathol. Lab. Med.* 131: 1555-1560.
5. Daugherty, S.E., et al. 2007. Polymorphic variants in α -methylacyl-CoA racemase and prostate cancer. *Prostate* 67: 1487-1497.
6. Levin, A.M., et al. 2007. Sequence variation in α -methylacyl-CoA racemase and risk of early-onset and familial prostate cancer. *Prostate* 67: 1507-1513.

CHROMOSOMAL LOCATION

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

SOURCE

P504S (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 351-369 near the C-terminus of P504S of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-514408 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

P504S (G-8) is recommended for detection of P504S of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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.

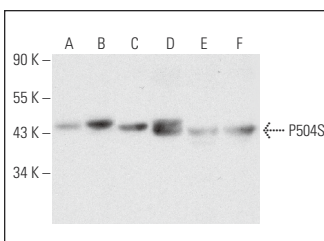
Molecular Weight of P504S other isoforms: 32/31/28/22 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, c4 whole cell lysate: sc-364186 or HeLa whole cell lysate: sc-2200.

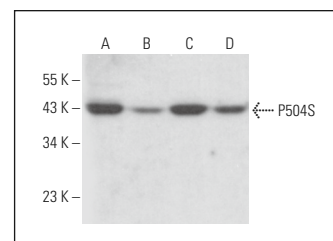
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



P504S (G-8): sc-514408. Western blot analysis of P504S expression in HeLa (A), Hep G2 (B) and c4 (C) whole cell lysates and mouse heart (D), mouse kidney (E) and mouse liver (F) tissue extracts.



P504S (G-8): sc-514408. Western blot analysis of P504S expression in Hep G2 (A), HUVEC-C (B), U266 (C) and Caco-2 (D) whole cell lysates.

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.