

## P504S (15): sc-136022

### BACKGROUND

P504S, also known as AMACR ( $\alpha$ -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  $\beta$  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

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3. Chen, W., et al. 2007. Molecular cloning and preliminary analysis of the human  $\alpha$ -methylacyl-CoA racemase promoter. *Mol. Biol. Rep.* 36: 423-430.
4. Shilo, K., et al. 2007.  $\alpha$ -methylacyl-CoA racemase in pulmonary adenocarcinoma, squamous cell carcinoma, and neuroendocrine tumors: expression and survival analysis. *Arch. Pathol. Lab. Med.* 131: 1555-1560.
5. Levin, A.M., et al. 2007. Sequence variation in  $\alpha$ -methylacyl-CoA racemase and risk of early-onset and familial prostate cancer. *Prostate* 67: 1507-1513.
6. Daugherty, S.E., et al. 2007. Variants in the  $\alpha$ -methylacyl-CoA racemase gene and the association with advanced distal colorectal adenoma. *Cancer Epidemiol. Biomarkers Prev.* 16: 1536-1542.
7. Shi, X., et al. 2007.  $\alpha$ -methylacyl-CoA racemase/P504S overexpression in colorectal carcinoma is correlated with tumor differentiation. *Appl. Immunohistochem. Mol. Morphol.* 15: 175-180.

### CHROMOSOMAL LOCATION

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

### SOURCE

P504S (15) is a mouse monoclonal antibody raised against amino acids 139-229 of P504S of human origin.

### PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

P504S (15) 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) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

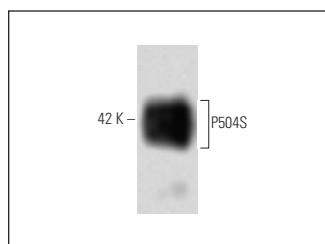
Suitable for use as control antibody for P504S siRNA (h): sc-92063, P504S siRNA (m): sc-151968, P504S shRNA Plasmid (h): sc-92063-SH, P504S shRNA Plasmid (m): sc-151968-SH, P504S shRNA (h) Lentiviral Particles: sc-92063-V and P504S shRNA (m) Lentiviral Particles: sc-151968-V.

Molecular Weight of P504S predominant isoform: 42 kDa.

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

Positive Controls: mouse liver extract: sc-2256, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

### DATA



P504S (15): sc-136022. Western blot analysis of P504S expression in mouse liver tissue extract.

### 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. Not for resale.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.