OriGene Technologies Inc.

9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene EU

Acris Antibodies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info@acris-antibodies.com

Polyclonal Antibody to AMACR / RACE (N-term) - Aff - Purified

Alternate names: 2-methylacyl-CoA racemase, Alpha-methylacyl-CoA racemase, P504S

Catalog No.: AP09884PU-N

Quantity: 0.1 mg

Concentration: 0.75 mg/ml

Background: A mitochondrial and peroxisomal enzyme, Alpha-methyacyl-CoA racemase (AMCAR), an enzyme invloved in beta oxidation of branched chain fatty acods and bile salt intermidiates, and is recently identified as a neomarker for prostate cancer. The AMCAR is over expressed in prostate cancer. Several different isoforms have been reported that are produced either by extensinve alternatve splicing of 5 exons or by use of alternate initiation codons. Atleast 2 different transcripts each derived from the 5 exons have been reported, AMCAR I abd AMACR II. The AMCAQR I is the most abundant form and enclodes for a 382 amino acid protein (42kDa) with a PI of 6.0. The other isoform AMACR II has an alternative fifth exon that exhibit significnat homolgy to fumerate hydratase and encoes a 288 amino acid protein with a molecular weight of 32 kDa, PI 9.6. Several other variants of IA and IIA isoforms are charcterized recently (1). The variant lack exon lack exon 3 are designated as IB and IIB. In prostate tumor tissues that overexpressed AMACR, both the A and B forms are over-expressed. The predominant isoform AMCAR IA also has a peroxisomal targetting signal peptide (PTS1), while other varinats are basic in PI and lack the PTS1.
Carcinomas of the transition zone (TZ) constitute approximately 20% of all prostate cancers. The TZ is the site of origin of grade 1 and grade 2 cancers, the most well-differentiated of the Gleason grade tumors, as well as for benign prostatic hyperplasia (BPH). AMACR has been proposed as a new molecular marker for prostate cancer, because the enzyme is reportedly overexpressed in high-grade dysplasias, also termed prostatic intraepithelial neoplasia, a purported precursor of prostatic carcinoma, and in all grades of prostatic carcinoma of the peripheral zone (3). Small interference RNA (siRNA) against AMACR, but not the control inverted siRNA, reduced the expression of AMACR and significantly impaired proliferation of the androgen-responsive PCa cell line LAPC-4 (2) suggesting that AMACR is essential for optimal growth of PCa cells in vitro and that this enzyme has the potential to be a complementary target with androgen ablation in PCa treatment.

Uniprot ID: O9UHK6

NCBI: NP_055139.4

GeneID: 23600

Host: Rabbit

Immunogen: Synthetic peptides
AA Sequence:
gaa vlr rlc krs dvl lep f r

Format: **State:** Liquid purified IgG fraction
Purification: Affinity Chromatography
Buffer System: Stabilization buffer

Applications: **ELISA.**
Western blot: › 1/500.
Immunoprecipitation: › 1/200.
Does not work well in Immunohistochemistry.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody detects AMACR at N-term.

Species Reactivity: **Tested:** Human, mouse, rat

Storage: Store (in aliquots) at -20°C. Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:
1. Mubiru JN, Shen-Ong GL, Valente AJ, Troyer DA. Gene. 2004 Feb 18;327(1):89-98.
2. Zha S, Ferdinandusse S, Denis S, Wanders RJ, Ewing CM, Luo J, De Marzo AM, Isaacs WB. Cancer Res. 2003 Nov 1;63:7365-76.
3. Leav I, McNeal JE, Ho SM, Jiang Z. Alpha-methylacyl-CoA racemase (P504S) expression in evolving carcinomas within benign prostatic hyperplasia and in cancers of the transition zone. Hum Pathol. 2003 Mar;34(3):228-33.