



Alpha-Methylacyl-CoA Racemase/P504S

IHC of AMACR on an FFPE Prostatic Adenocarcinoma Tissue

Description AMACR (P504S) is an acronym for the protein alpha-methylacyl CoA racemase that helps to metabolize certain fatty acids within the body. AMACR has been recently described as a prostate cancer-specific gene that encodes a protein involved in the beta-oxidation of branched chain fatty acids. Expression of AMACR protein is found in Prostatic Adenocarcinoma but not in benign prostatic tissue. It stains premalignant lesions of the prostate: High-Grade Prostatic Intraepithelial Neoplasia (PIN) and Atypical Adenomatous Hyperplasia. Several studies have suggested that AMACR can be used as a prostate cancer biomarker.

High expression of AMACR (P504S) protein is usually found in Prostatic Adenocarcinoma but not in benign prostatic tissue by immunohistochemical staining in paraffin-embedded tissues. Using AMACR as a positive marker along with basal-cell staining (34βE12 or p63) as a negative marker could help to confirm the diagnosis of small foci of Prostate Carcinoma on needle biopsies.

Antibody Type	Rabbit Monoclonal	Clone	RBT-AMACR
Isotype	IgG	Reactivity	Paraffin, Frozen
Localization	Cytoplasmic	Control	Prostatic Adenocarcinoma
Storage	Store at 2°-8°C	Stability	2 years

For long-term storage of the concentrated antibody, it is recommended that aliquots of the antibody be frozen at -20°C in glycerol 50% (frost-free freezers are not recommended). Repeated freezing and thawing must be avoided. Dilute using an antibody diluent such as ImmunoDetector Protein Block/Antibody Diluent (BSB 0040 and BSB 0041) or ImmunoDNA Background Blocker (BSB 0103-BSB 0107).

Presentation P504S/AMACR is a rabbit monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Availability	Catalog No.	Antibody Type	Dilution	Volume/QTY
	BSB 5057	Prediluted	Ready-To-Use	3.0 ml
	BSB 5058	Prediluted	Ready-To-Use	7.0 ml
	BSB 5059	Prediluted	Ready-To-Use	15.0 ml
	BSB 5060	Concentrated	1:50-1:200	0.1 ml
	BSB 5061	Concentrated	1:50-1:200	0.5 ml
	BSB 5062	Concentrated	1:50-1:200	1.0 ml
	BSB 5063	Control Slides		5

Note: For concentrated antibodies, please centrifuge prior to use to ensure recovery of all product.

- References**
- Jiang Z, et al. *P504S Am J Surg Pathol.* 2001;25:1397-1404
 - Rubin MA, et al. *JAMA.* 2002;287:1662-1670
 - Luo J, et al. *Res.* 2002; 62:2220-2226
 - Beach R, et al. *Am J Surg Pathol.* 2002;26:1588-1596

Protocol Suggested protocol on reverse

Recommended Immunohistochemical Protocol

- Pretreatment**
1. Cut and mount 3-4 micron formalin-fixed paraffin-embedded tissues on positive charged slides.
 2. Air dry for 2 hours at 58° C.
 3. Deparaffinize, dehydrate and rehydrate tissues.
 4. Subject tissues to heat epitope retrieval using a suitable retrieval solution such as **ImmunoDNA Retriever with Citrate** (BSB 0020-BSB 0023) or **EDTA** (BSB 0030-BSB 0033).
 5. Any of three heating methods may be used:
 - a. **Electric Pressure Cooker**
Place standoff rack at base of pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high, and incubate for 15 minutes. Open and immediately transfer slides to room temperature.
 - b. **Water Bath Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a water bath set at 95°-99° C. Incubate for 30-60 minutes.
 - c. **Conventional Steamer Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a Steamer, cover and steam for 30-60 minutes.
 6. After heat treatment, transfer slides in **ImmunoDNA Retriever with Citrate** or **EDTA** to room temperature and let stand for 15-20 minutes.
 7. Wash slides with IHC wash buffer or DI water.
 8. Continue IHC staining protocol.

Immunohistochemical Protocol

Step	ImmunoDetector (AP or HRP)	PolyDetector (AP or HRP)
Peroxidase/AP Block	5 minutes	5 minutes
Primary Antibody	30 minutes	45 minutes
Secondary Biotinylated Link	10 minutes	Not Applicable
AP or HRP Label	10 minutes	45 minutes
Substrate-Chromogen	5-10 minutes	10 minutes
Counterstaining	Time varies with counterstain	Time varies with counterstain

