

Technical Bulletin

Anti-PSMA antibody, Mouse monoclonal

Clone 107-1A4, purified from hybridoma cell culture

SAB4200257

Product Description

Monoclonal Anti-PSMA (mouse IgG1 isotype) is derived from the hybridoma 107-1A4 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized initially with human normal prostate homogenate followed by immunization with prostate cancer LNCaP cells.¹ The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Cat. No. ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-PSMA recognizes human PSMA (not tested on other species). The antibody may be used in several immunochemical techniques including ELISA, immunocytochemistry, immunoprecipitation and flow cytometry.^{1,2}

Prostate-specific membrane antigen (PSMA) is an integral, non-shed, type 2 transmembrane glycoprotein belonging to the M28 peptidase family. The protein acts as a glutamate carboxypeptidase on different alternative substrates, including the nutrient folate and the neuropeptide N-acetyl-l-aspartyl-l-glutamate. It is expressed in a number of tissues such as prostate, central and peripheral nervous system and kidney. Furthermore, it was found to be a prototypical cell-surface marker of prostate cancer; most abundant and nearly universal expression in prostate carcinoma. In addition, it is expressed in the neovasculature of other solid tumors. These findings have spurred development of PSMA-targeted therapies for cancer, and first-generation products have entered clinical testing.^{3,4} In other tissues, a mutation in this gene may be associated with impaired intestinal absorption of dietary folates, resulting in low blood folate levels and consequent hyperhomocysteinemia.⁵ Expression of this protein in the brain may be involved in a number of pathological conditions associated with glutamate excitotoxicity.⁶

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration:

~ 1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunofluorescence:

A working antibody concentration 5-10 µg/mL is recommended using methanol/acetone fixed LNCaP cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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4. Olson, W.C., et al., *Rev. Recent Clin. Trials*, **2**, 182-190 (2007).
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6. Kim, M.J., et al., *FASEB J.*, **24**, 4491-4502 (2010).

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