Product datasheet

Anti-PSMA antibody [YPSMA-1] ab19071

Overview

Product name
Anti-PSMA antibody [YPSMA-1]

Description
Mouse monoclonal [YPSMA-1] to PSMA

Host species
Mouse

Tested applications
Suitable for: ELISA, WB, IHC-P, IHC-Fr, ICC/IF, Flow Cyt

Species reactivity
Reacts with: Human

Immunogen
Crude membrane protein preparation from pooled prostate malignant carcinoma from China.

Positive control
LNCaP cell line, recombinant PSMA.

General notes
Abcam is committed to meeting high quality standards of ethical manufacturing and has decided to discontinue this product by June 2020 as it has been generated by the ascites method. We are sorry for any inconvenience this may cause. We suggest ab133579 or ab76104 as possible replacements.

This antibody detects PMSA in prostate cancer but shows little or no cross-reactivity to benign prostate hyperplasia or to normal prostatic tissue.

Properties

Form
Liquid

Storage instructions
Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

Storage buffer
pH: 7.00
Constituent: PBS

Purity
Ascites

Purification notes
Purified from ascites.

Primary antibody notes
This antibody detects PMSA in prostate cancer but shows little or no cross-reactivity to benign prostate hyperplasia or to normal prostatic tissue.

Clonality
Monoclonal

Clone number
YPSMA-1

Myeloma
Sp2/0-Ag14

Isotype
IgG2b
Light chain type  kappa

Applications

Our Abpromise guarantee covers the use of ab19071 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>WB</td>
<td>★★★★☆☆☆☆</td>
<td>Use at an assay dependent concentration. Predicted molecular weight: 84 kDa.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>★★★★★☆☆☆☆</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>★★★★★☆☆☆☆</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td>★★★★☆☆☆☆☆</td>
<td>Use 0.1µg for 10^6 cells. ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.</td>
</tr>
</tbody>
</table>

Target

Function

Has both folate hydrolase and N-acetylated-alpha-linked-acidic dipeptidase (NAALADase) activity. Has a preference for tri-alpha-glutamate peptides. In the intestine, required for the uptake of folate. In the brain, modulates excitatory neurotransmission through the hydrolysis of the neuropeptide, N-acetylaspartylglutamate (NAAG), thereby releasing glutamate. Isoform PSM-4 and isoform PSM-5 would appear to be physiologically irrelevant. Involved in prostate tumor progression.

Also exhibits a dipeptidyl-peptidase IV type activity. In vitro, cleaves Gly-Pro-AMC.

Tissue specificity

Highly expressed in prostate epithelium. Detected in urinary bladder, kidney, testis, ovary, fallopian tube, breast, adrenal gland, liver, esophagus, stomach, small intestine, colon and brain (at protein level). Detected in the small intestine, brain, kidney, liver, spleen, colon, trachea, spinal cord and the capillary endothelium of a variety of tumors. Expressed specifically in jejunum brush border membranes. In the brain, highly expressed in the ventral striatum and brain stem. Also expressed in fetal liver and kidney. Isoform PSMA' is the most abundant form in normal prostate. Isoform PSMA-1 is the most abundant form in primary prostate tumors. Isoform PSMA-2 is also found in normal prostate as well as in brain and liver. Isoform PSMA-9 is specifically expressed in prostate cancer.

Sequence similarities

Belongs to the peptidase M28 family. M28B subfamily.

Domain

The NAALADase activity is found in the central region, the dipeptidyl peptidase IV type activity in the C-terminal.

Post-translational modifications

The first two amino acids at the N-terminus of isoform PSMA' appear to be cleaved by limited proteolysis.
The N-terminus is blocked.

Cellular localization

Cytoplasm and Cell membrane.
Overlay histogram showing LnCAP cells stained with ab19071 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab19071, 0.1μg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H+L) (ab150113) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 1μg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in LnCAP cells fixed with 80% methanol (5 min) permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

Immunohistochemistry of formalin-fixed paraffin embedded prostate cancer tissue sections labeling PSMA with ab19071 at 1:1000 dilution.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
Extensive multi-media technical resources to help you
We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

Guarantee only valid for products bought direct from Abcam or one of our authorized distributors