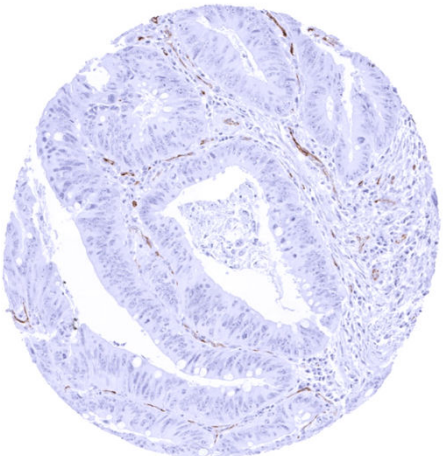
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com
Revision 4.0

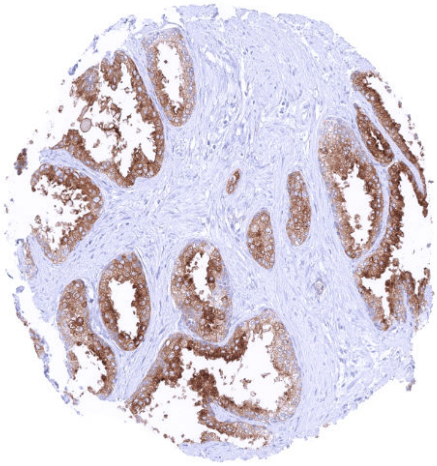
Anti- PSMA Antibody
ARX-752 / Mouse monoclonal

Human SwissProt	Q04609
Human Gene Symbol	PSMA
Synonyms	GCP2, FOLH1, NAALADase I, PGGCP, FGGCP, FGCP
Specificity	PSMA
Immunogen	Recombinant human PSMA fragment
Isotype	Mouse IgG1
Species Reactivity	Human
Localization	Membranous

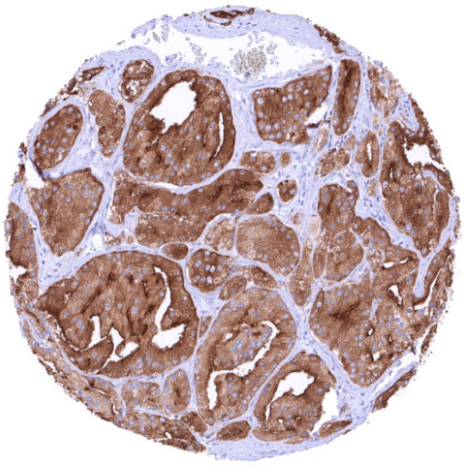
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Prostate: A moderate to strong PSMA staining should be seen in the cytoplasm and at the apical/luminal membrane of acinar epithelial cells.
Negative Control	Colon: PSMA staining must be completely absent in all cell types.



Colorectal adenocarcinoma with distinct endothelial PSMA positivity of small vessels while cancer cells are negative.



Normal prostate with strong cytoplasmatic PSMA staining of all luminal epithelial cells.



Prostatic adenocarcinoma (Gleason 4+3=7) with strong PSMA staining of all tumor cells.

Biology

Prostate-specific membrane antigen (PSMA) is a class II membrane glycoprotein that is coded by the FOLH1 gene on chromosome 11p11.12. PSMA is preferentially expressed in the small intestine, salivary glands, the prostate, the kidney, and the brain. Its function is tissue specific. In the brain, it is needed for degradation of the neurotransmitter N-acetylaspartylglutamate (NAAG) into NAA and glutamate. At the jejunal brush border, PSMA is responsible for folate absorption. PSMA in the prostate and the kidney may also be needed for processing folates as a reuptake of folate occurs in the kidney and monoglutamated folates are released into the seminal fluid. Most of the current interest in PSMA comes from its role in prostate cancer. Because of its frequent upregulation (up to 1000 fold as compared to normal prostatic epithelium), PSMA is rapidly gaining importance as a diagnostic and a therapeutic target protein. In particular, PSMA small molecule radioligands are now well established for diagnostic imaging and increasingly used for radiotherapy of prostate cancer. PSMA appears to be also important in extra-prostatic cancers where it can be expressed in cancer cells but also plays a role in cancer-related angiogenesis by degrading the extracellular matrix and participating in integrin signal transduction.

Potential Research Applications

-The prevalence and clinical significance of PSMA expression in tumor cells and the neo-vasculature in different cancer types is insufficiently explored.
-The best use of PSMA as a therapeutic target has not been finally determined in prostate cancer and other tumor types.
-The role and utility as a drug target of PSMA in neurological disease is unclear.

Protocol Suggestions

Dilution: 1:100 – 1:200; pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

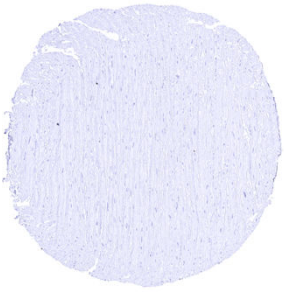
Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics.

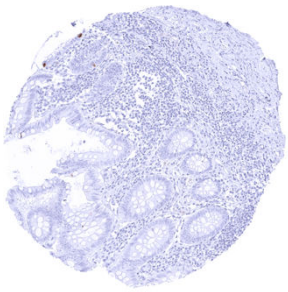
Warranty

There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.

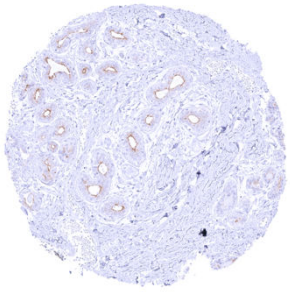
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com
Revision 4.0



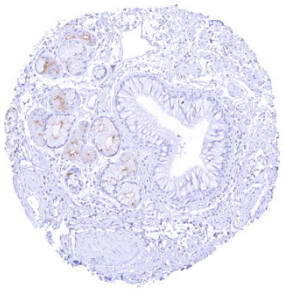
Aorta, media



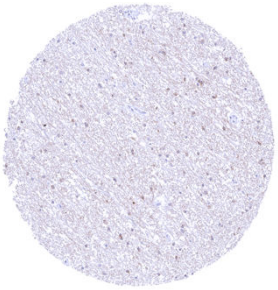
Appendix, mucosa



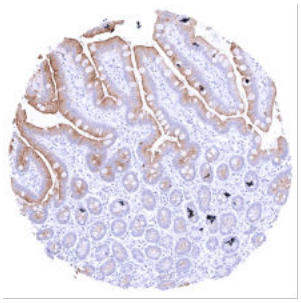
Breast – Weak to moderate apical membranous and faint cytoplasmic staining of luminal glandular cells.



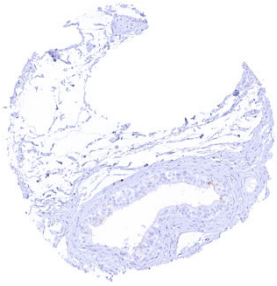
Bronchus, glands – Weak to moderate PSMA staining (membranous apical and cytoplasmic) of bronchial glands.



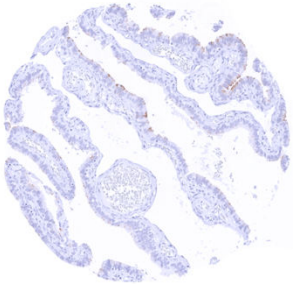
Cerebrum, white matter – Distinct membranous PSMA staining of at least a fraction of glia cells. Weak to moderate fibrillar PSMA staining.



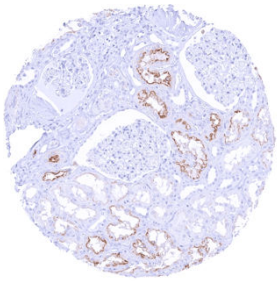
Duodenum, mucosa – Intense PSMA staining of the luminal membranes – stronger on the surface of villi than in the crypt base. The cytoplasm is also PSMA positive especially on the luminal half.



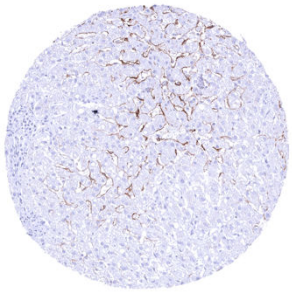
Epididymis (Cauda) – Focal weak to moderate apical membranous PSMA staining.



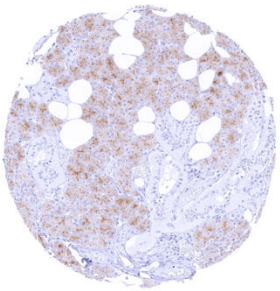
Fallopian tube, mucosa – Weak to moderate apical membranous and weak cytoplasmic PSMA staining of a subset of epithelial cells.



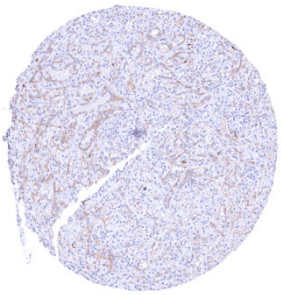
Kidney, cortex – Intense PSMA staining of luminal membranes of proximal tubules while staining is markedly less intense in distal tubuli and absent in collecting ducts.



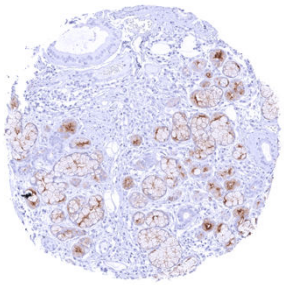
Liver – Moderate to strong PSMA staining of sinusoid cells (regional differences in the staining intensity). Hepatocyte staining is not detectable in this sample.



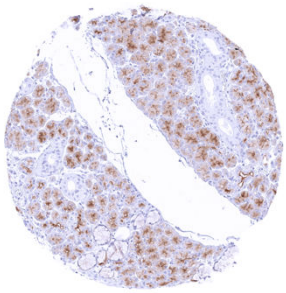
Parotid gland – Moderate to strong apical membranous and weak to moderate diffuse cytoplasmic PSMA staining of serous glands.



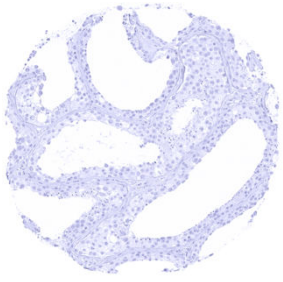
Spleen – Distinct PSMA staining of venous sinuses (littoral cells)



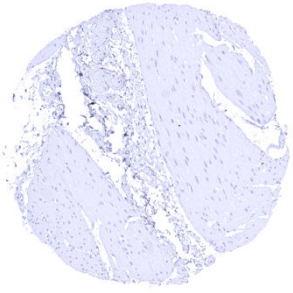
Sublingual gland – Moderate apical membranous and weak cytoplasmic PSMA staining of glands.



Submandibular gland – Strong apical membranous and weak to moderate cytoplasmic PSMA staining of glandular cells (more intense in serous than in mucinous glands).



Testis



Urinary bladder, muscular wall