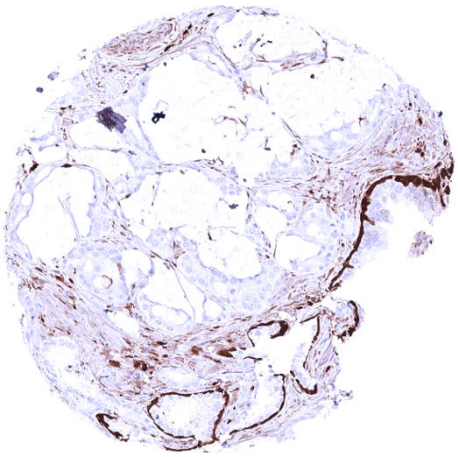
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com
Revision 4.0

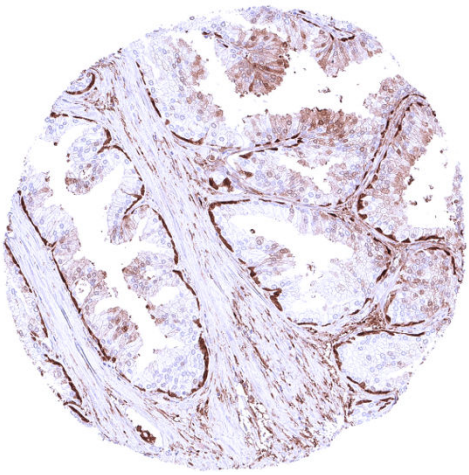
Anti- GSTP1 Antibody
MSVA-685R / Recombinant Rabbit monoclonal

Human SwissProt	P09211
Human Gene Symbol	GSTP1
Synonyms	Glutathione S-transferase P, GST class-pi, GSTP1-1, FAEES3, GST3, Glutathione S-transferase P, GST class-pi, EC:2.5.1.18,
Specificity	GSTP1
Immunogen	Recombinant human GSTP1 fragment
Isotype	Kappa / IgG
Species Reactivity	Human

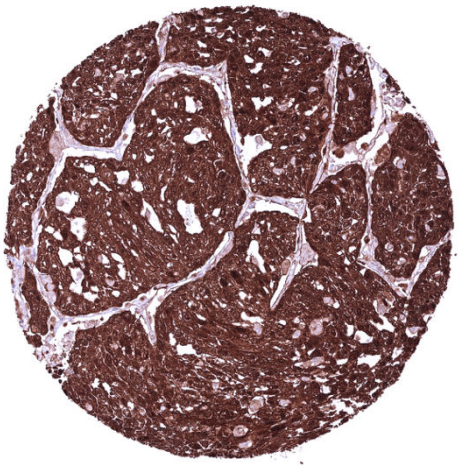
Localization	Nuclear and cytoplasmic
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM 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 strong nuclear and cytoplasmic GSTP1 staining should be seen in all basal cells of the prostate.
Negative Control	GSTP1 staining must be absent in Sertoli cells and in maturing germ cells (weak positivity should be seen in spermatogonia).



GSTP1 negative prostatic adenocarcinoma (Gleason 4+4=8) next to non-neoplastic epithelial cells lined by basal cells with strong GSTP1 staining.



Prostate with intense nuclear and cytoplasmic GSTP1 staining of basal cells while GSTP1 staining is moderate, weak or even absent in acinar cells.



Pulmonary squamous cell carcinoma with intense GSTP1 staining of all tumor cells.

Biology

Glutathione S-Transferase Pi1 (GSTP1) is an enzyme that catalyzes the conjugation of glutathione to a variety of electrophilic compounds. This activity is crucial for the detoxification of endogenous and exogenous carcinogens, oxidative stress products and drugs, thereby protecting cells from oxidative damage and mutagenesis. According to its critical role, GSTP1 is ubiquitously expressed in human cells. It is particularly abundant in epithelial cells. GSTP1 polymorphisms have been associated with altered susceptibility to various cancer types, but also other diseases such as non-alcoholic fatty liver. Accordingly, GSTP1 knockout mice have shown increased sensitivity to environmental carcinogens, oxidative stress, and inflammation. GSTP1 dysregulation plays a significant role in cancer development and progression. Overexpression of GSTP1 can contribute to resistance to chemotherapy by detoxifying anticancer drugs. Decreased GSTP1 activity or expression, can increase vulnerability to carcinogenic damage. Cancer studies by IHC have described an unfavorable prognostic impact of both reduced and increased GSTP1 expression and suggested a predictive role of high expression for chemo-resistance. Moreover, GSTP1 is a potential therapeutic target for cancer and other diseases. Inhibitors of GSTP1, such as ezatiostat and others are under clinical investigation as sensitizers to chemotherapy or modulators of immune response.

Potential Research Applications

-The diagnostic utility of GSTP1 IHC for cancer and preneoplastic disease needs to be investigated.
-The prognostic relevance of GSTP1 expression in tumors should be explored further.
-The predictive role of increased and/or reduced or absent GSTP1 expression for cancer treatments needs to be evaluated.
-The interaction of GSTP1 with other cellular pathways needs to be better understood.

Protocol Suggestions

Dilution: 1:00 - 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).

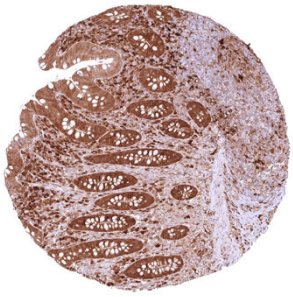
Limitations

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

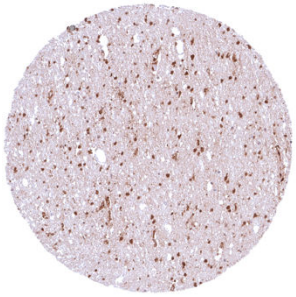
Warranty

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.

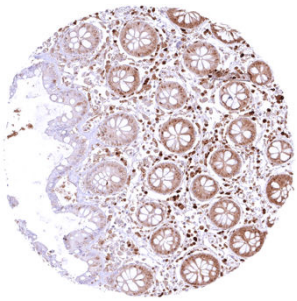
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com
Revision 4.0



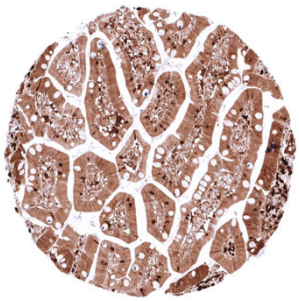
Appendix, mucosa – Strong, predominantly cytoplasmic GSTP1 positivity of epithelial cells. Staining is most intense at the base of crypts and decreases slightly towards the surface epithelium.



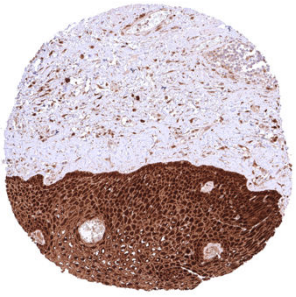
Cerebrum (white matter) – Distinct GSTP1 positivity of fibres and of glial cells.



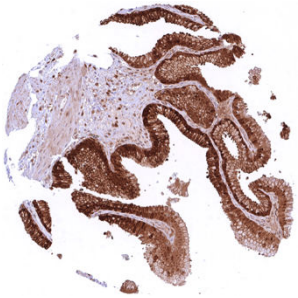
Colon descendens, mucosa – Moderate, predominantly cytoplasmic GSTP1 positivity of epithelial cells. Staining is most intense at the base of crypts and decreases slightly towards the surface epithelium.



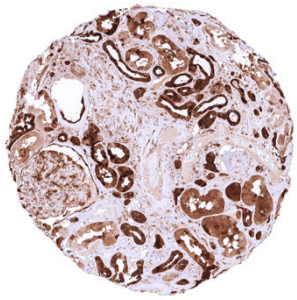
Duodenum, mucosa – Strong predominantly cytoplasmic GSTP1 positivity of epithelial cells.



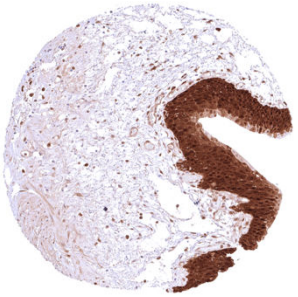
Esophagus, squamous epithelium – Strong cytoplasmic and nuclear GSTP1 positivity of squamous epithelial cells. Staining intensity is highest in the basal and suprabasal cell layers and decreases slightly towards the surface.



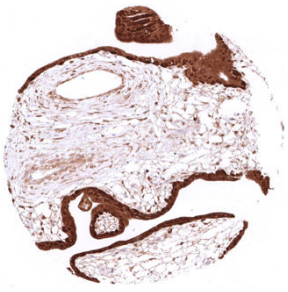
Gallbladder, epithelium – Strong nuclear and cytoplasmic GSTP1 positivity of epithelial cells.



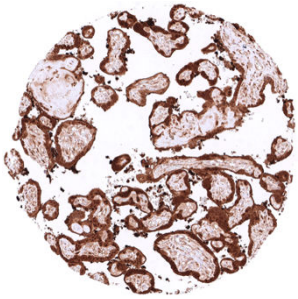
Kidney, cortex – GSTP1 staining is intense in distal tubuli, collecting ducts, and in the parietal layer of the capsule of Bowman but “only” moderate in proximal tubuli in this sample.



Kidney, pelvis, urothelium – Strong, nuclear and cytoplasmic GSTP1 positivity of most urothelial cells but the staining is only weak in a subset of umbrella cells.

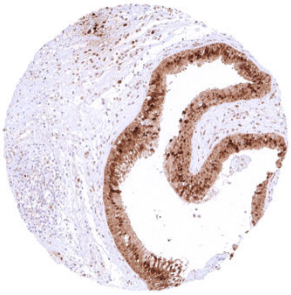


Placenta, early – Intense, nuclear and cytoplasmic GSTP1 positivity of cytotrophoblast and syncytiotrophoblast cells in this sample.

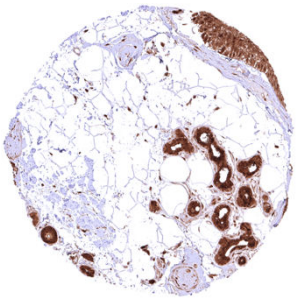


Placenta, mature – Intense, nuclear and cytoplasmic GSTP1 positivity of cytotrophoblast and syncytiotrophoblast cells in this sample.

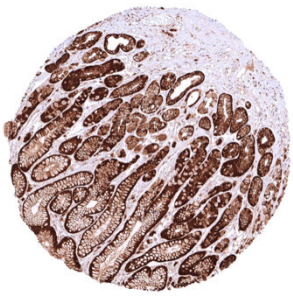
Rectum, mucosa – Strong, predominantly cytoplasmic GSTP1 positivity of epithelial cells. Staining is most intense at the base of crypts and decreases slightly towards the surface epithelium.



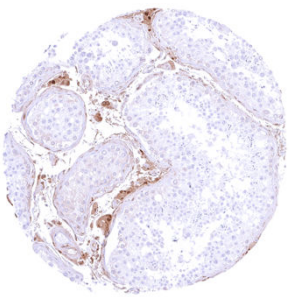
Sinus paranasales – Moderate nuclear and cytoplasmic GSTP1 positivity of respiratory epithelial cells.



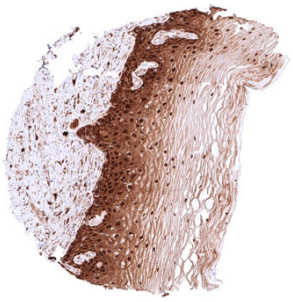
Skin, ekkrine glands – Strong GSTP1 positivity of eccrine glands.



Stomach, antrum – Strong, predominantly cytoplasmic GSTP1 positivity of gastric surface epithelium and most cell types of antrum glands.



Testis – Very faint cytoplasmic GSTP1 positivity of spermatogonia while maturing germ cells and Sertoli cells are GSTP1 negative. Moderate GSTP1 positivity of Leydig cells.



Uterus, ectocervix – Cytoplasmic and nuclear GSTP1 positivity of variable intensity of squamous epithelial cells. Staining intensity is highest in the basal and suprabasal cell layers and decreases towards the surface.