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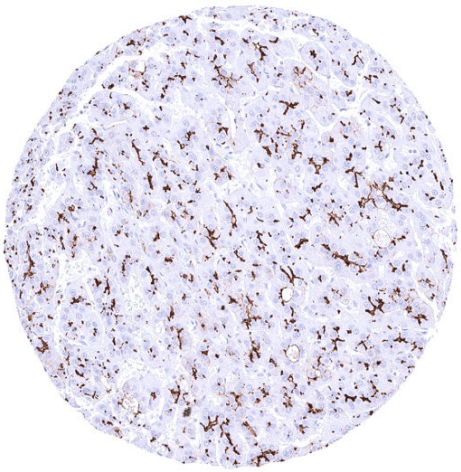
Revision 4.0

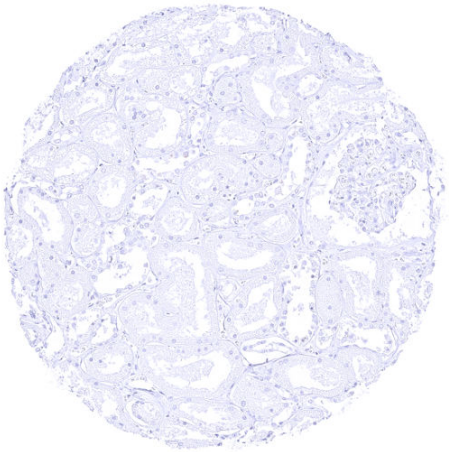
Anti- BSEP Antibody
HMV4715/ Recombinant Rabbit monoclonal

Human SwissProt	O95342
Human Gene Symbol	BSEP
Synonyms	ATP binding cassette subfamily B member 11, ABC16, BRIC2, BSEP, PFIC-2, PFIC2, PGY4, SPGP
Specificity	BSEP
Immunogen	Recombinant human BSEP fragment
Isotype	Rabbit/ IgG
Species Reactivity	Human
Localization	Membranous

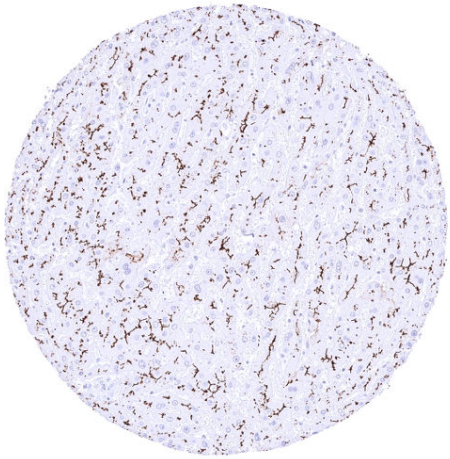
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Liver: A strong BSEP staining must be seen at the apical "bile secreting" pole of hepatocytes".
Negative Control	Kidney: BSEP staining should be completely absent in all cells (note: other tissues can also be used as negative controls in case of BSEP).



Hepatocellular carcinoma with strong BSEP staining at the luminal membranes of tumor cells.



Kidney tissue with a complete lack of BSEP staining in all cells.



Liver with intense membranous BSEP staining at the apical („bile-secreting") pole of hepatocytes.

Biology

The Bile Salt Export Pump (BSEP) is a crucial transporter protein coded by the ABCB11 gene, located at chromosome 2q24.1, which plays an essential role in exporting bile acids from hepatocytes into the bile canaliculi. The BSEP protein features multiple transmembrane domains that span the hepatocyte membrane, facilitating substrate movement using ATP hydrolysis as an energy source. Mutations or dysfunction of BSEP are directly implicated in several cholestatic liver diseases. For example, Progressive Familial Intrahepatic Cholestasis type 2 (PFIC2) is an inherited disorder caused by biallelic mutations in ABCB11, leading to defective BSEP function, cholestasis, and progressive liver damage. Other inherited conditions include Benign Recurrent Intrahepatic Cholestasis (BRIC) and certain drug-induced cholestasis cases, where BSEP impairment results in intracellular bile acid accumulation, hepatocellular injury, and fibrosis. Given its liver-specific expression, BSEP is considered a potential diagnostic marker for the distinction of liver cancer from other tumor entities.

Potential Research Applications

-The sensitivity and specificity of BSEP IHC for the distinction of hepatocellular carcinomas from other tumors needs to be investigated.
-The role of BSEP expression levels in hepatocellular carcinoma are unclear. This includes its potential contribution to chemoresistance and tumor aggressiveness.
-The diverse mutations in ABCB11 that cause different forms of cholestasis (e.g., PFIC2, BRIC) and their functional impacts on BSEP activity need to be further explored.
-The molecular pathways and factors that regulate BSEP expression and activity in the liver need to be investigated.

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.

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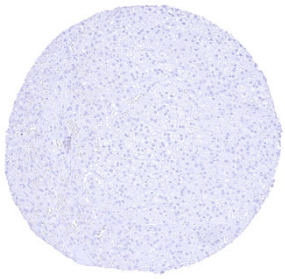
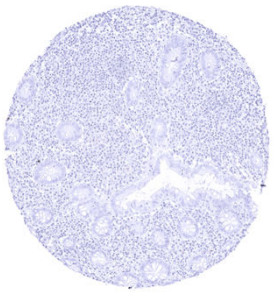
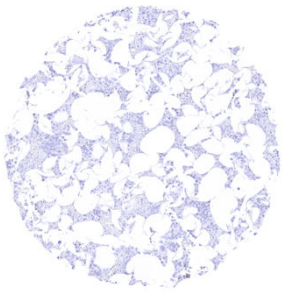


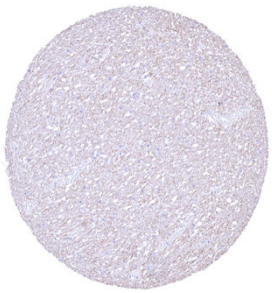
Adrenal gland



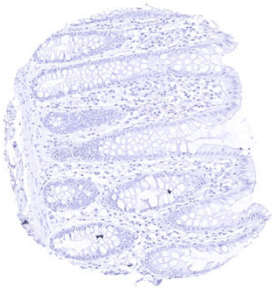
Appendix, mucosa



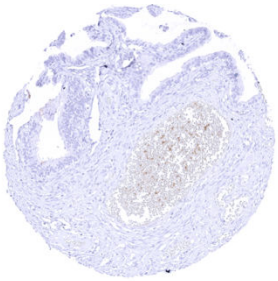
Bone marrow



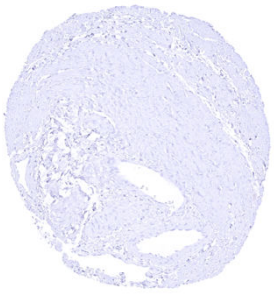
Cerebellum (white matter)



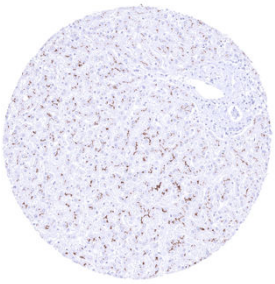
Colon descendens, mucosa



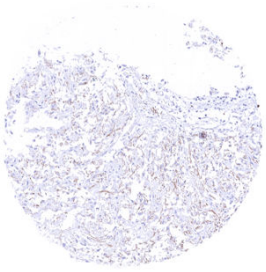
Fallopian tube, mucosa



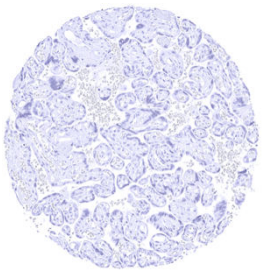
Kidney, pelvis, muscular wall



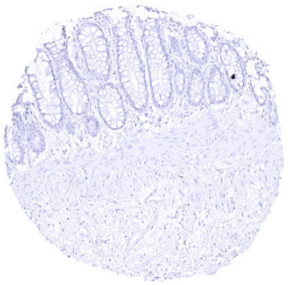
Liver – Strong membranous BSEP staining at the apical („bile-secreting") pole of hepatocytes. There is a slight zonal variability of the staining intensity.



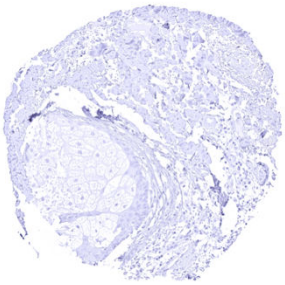
Pituitary gland, posterior lobe



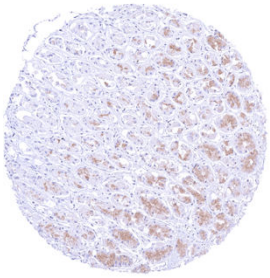
Placenta, mature



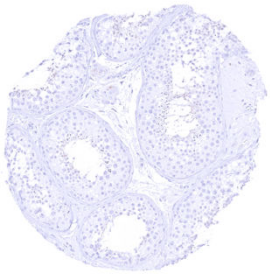
Rectum, mucosa



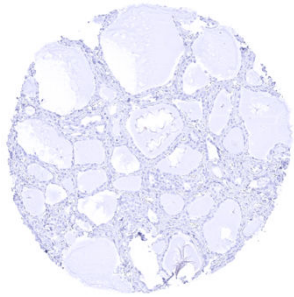
Skin, sebaceous glands



Stomach, corpus – Such a mild to moderate gastric gland staining was obtained by multiple independent antibodies and might be due to a binding to secondary antibodies.



Testis



Thyroid gland

Uterus, myometrium