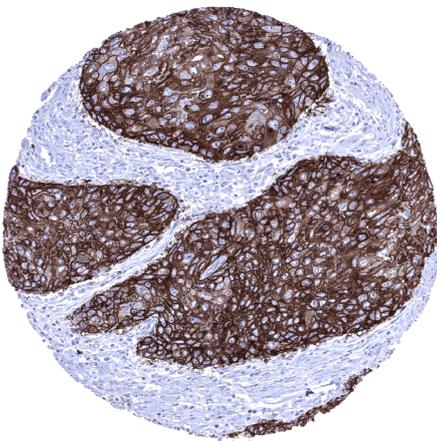


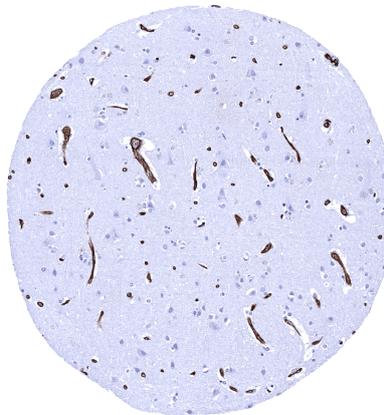
Anti-GLUT 1 Antibody MSVA-401R / Recombinant Rabbit Monoclonal

Human SwissProt	P11166
Human Gene Symbol	SLC2A1
Synonyms	Erythrocyte/hepatoma glucose transporter; Glucose transporter type-1; GLUT1; GLUT1DS; GLUTB; GT1; GTG1; Gtg3; HepG2 glucose transporter; PED; RATGTG1; Solute carrier family 2, facilitated glucose transporter member 1 (SLC2A1)
Specificity	GLUT 1
Immunogen	Recombinant fragment of human SLC2A1 protein
Isotype	Rabbit / IgG
Species Reactivity	Human

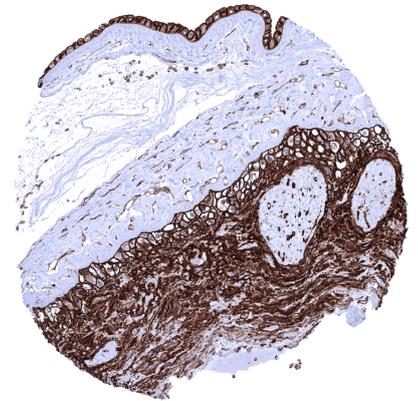
Localization	Cell Surface
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. A ntibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide.
Positive Control	Brain: A strong GLUT1 staining of endothelial cells should be seen.
Negative Control	Brain: GLUT1 staining should be absent in all cells/structures except blood vessels.



Strong, predominantly membranous GLUT1 staining of a squamous cell carcinoma of the skin



A particularly strong GLUT1 staining of endothelial cells is seen in the brain



In the placenta, an intense membranous GLUT1 staining occurs in amnion and chorion cells and also endothelial cells show a strong staining

Biology

Glucose transporter 1 (or GLUT1), also known as solute carrier family 2, facilitated glucose transporter member 1 (SLC2A1) protein is coded by the SLC2A1 gene on chromosome 1p34.2. GLUT1 facilitates the transport of glucose across the plasma membranes of cells. GLUT1 is also a receptor for vitamin C uptake and the human T-cell leukemia virus (HTLV) I and II. GLUT1 expression occurs in almost all tissues. The level of GLUT1 expression parallels the rate of cellular glucose metabolism. It is particularly high in erythrocytes and in endothelial cells of the blood-brain barrier. GLUT1 is often overexpressed in cancer because many tumors exert a metabolic switch from oxidative phosphorylation to glycolysis which requires an elevated uptake of glucose. In cancer GLUT1 represents a potential therapeutic target for GLUT1 inhibitors such as Bay-876. In normal tissues, the strongest GLUT1 immunostaining is seen in amnion, chorion, and trophoblast cells of the placenta. GLUT1 staining is also strong in all erythrocytes and their precursor cells. GLUT1 staining of endothelial cells is depending on the location and tissue type. It is strongest in the brain. At least weak to moderate staining is seen in squamous epithelium and urothelium as well as in dendritic cells of germinal centres. Among tumors, a positive GLUT1 immunostaining is preferentially seen in squamous cell carcinomas irrespective of their origin but at least a small fraction of GLUT1 positive cases also occurs in a broad range of other tumor entities.

Potential research Applications

-GLUT1 inhibitors, such as Bay-876 have shown efficiency in blocking tumor cell growth. It is currently unclear whether the effect of such drugs depends on the cellular GLUT1 expression levels.
-The clinical significance of GLUT1 expression in cancer is unclear.

Protocol Suggestions

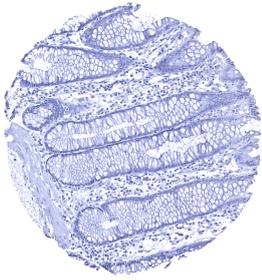
Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

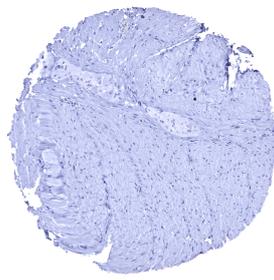
This antibody is available for **research use only** and is not approved for use in diagnostics. Not for resale without express authorization.

Warranty

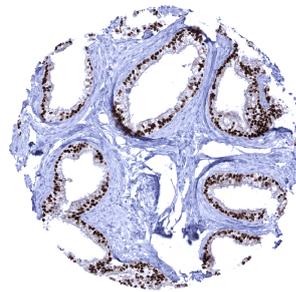
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



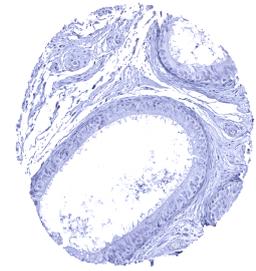
Colon descendens, mucosa



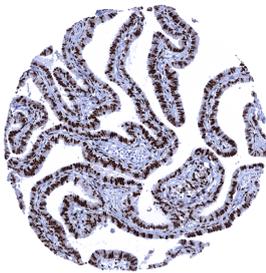
Colon descendens, muscular wall



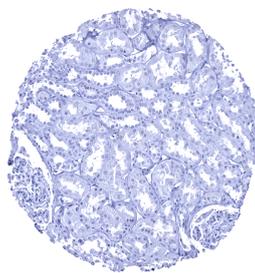
Epididymis, cauda - A moderate to strong ER immunostaining can be seen in epithelial cells of the cauda epididymis



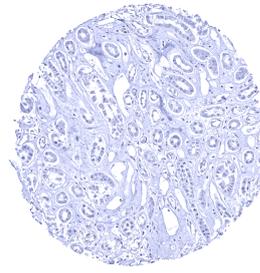
Epididymis, corpus - ER immunostaining is absent epithelial cells of the corpus epididymis



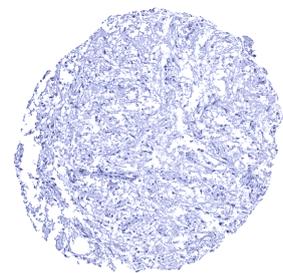
Fallopian tube, mucosa - A strong epithelial and stromal ER positivity is seen in the fallopian tube



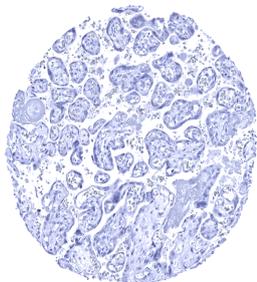
Kidney, cortex



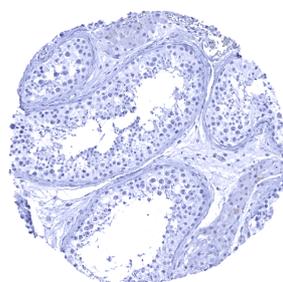
Kidney, medulla



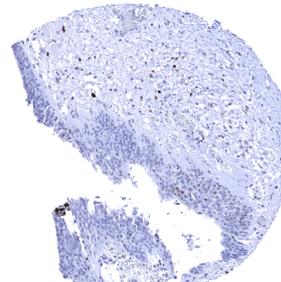
Pituitary gland, posterior lobe



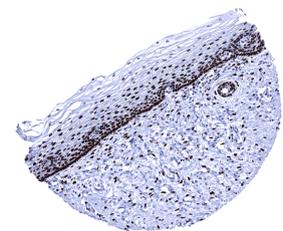
Placenta, mature



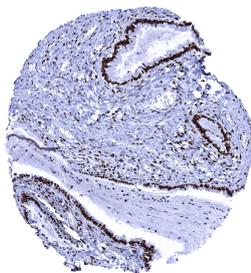
Testis



Urinary bladder, urothelium - Weak ER staining in a fraction of urothelial cells, moderate ER staining of some stromal cells



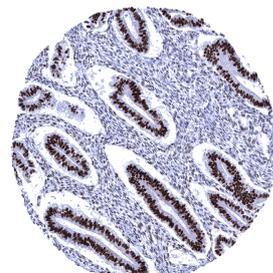
Uterus, cervix - An intense ER staining occurs in stromal cells and in the majority of squamous epithelial cells with a slight decrease of the intensity from the



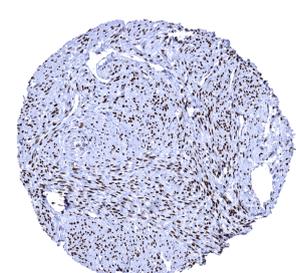
Uterus, endocervix - ER staining is intense in epithelial and stromal cells of the endocervix



Uterus, endometrium (proliferation) - ER immunostaining is at its highest level in epithelial and stromal cells of the endometrium



Uterus, endometrium (secretion) - ER immunostaining is stronger in epithelial than in stromal cells of this sample of this endometrium in secretion phase



Uterus, myometrium - Strong ER staining of the myometrium muscle cells