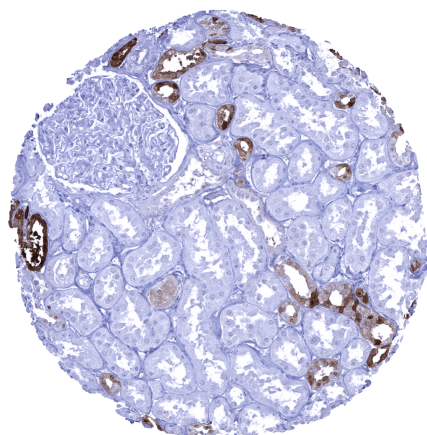


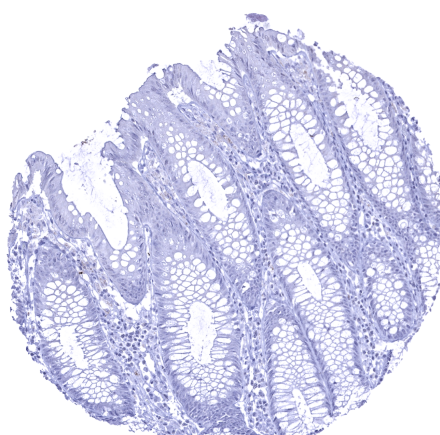
Anti- Calbindin 1 Antibody MSVA-471M / Mouse monoclonal

Human SwissProt	P05937
Human Gene Symbol	CALB1
Synonyms	avian-type; CAB27; CALB 1; CALB; CALB1; CALB1_HUMAN; Calbindin 1 28kDa; Calbindin; Calbindin D28; D 28K; D-28K; OTTHUMP00000166027; OTTHUMP00000225441; RTVL H protein; Vitamin D dependent calcium binding protein; Vitamin D dependent calcium binding protein avian type; Vitamin D-dependent calcium-binding protein
Specificity	Calbindin 1
Immunogen	Recombinant fragment of human CALB1 protein
Isotype	Mouse / IgG
Species Reactivity	Human

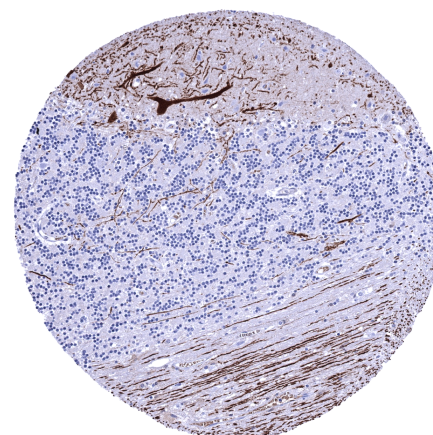
Localization	Nuclear and Cytoplasmic
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide.
Positive Control	Kidney: A subset of the cells of distal tubuli should show an intense cytoplasmic calbindin 1 immunostaining.
Negative Control	Colon: Calbindin 1 immunostaining should be completely absent in epithelial and other cells.



Kidney, cortex - A strong cytoplasmic Calbindin 1 immunostaining occurs in a fraction of distal tubuli of the kidney .



Colon descendens, mucosa - Calbindin 1 immunostaining is absent in all cells of the colon mucosa.



Cerebellum (molecular layer, Purkinje cell layer, granule cell layer, white matter) - A strong Calbindin 1 staining of Purkinje cells and of associated axonal fibres is seen in the cerebellum.

Biology

Calbindin 1 (CALB1) is coded by the CALB1 gene at 8q21.3. It belongs to the calbindin family of calcium-binding proteins, along with calretinin (CALB2). Calbindin 1 is a major calcium-buffering cytoplasmic protein that is thought to buffer entry of calcium upon stimulation of glutamate receptors. It is expressed at particularly high levels in the central nervous system (CNS) where it makes up for 1.5% of the soluble protein mass and appears to have neuroprotective properties. Calbindin 1 expression in the brain is significantly diminished in various neurological disorders associated with epileptiform activity and seizures. In Alzheimer's disease (AD) and epilepsy, the severity of cognitive deficits reflects the degree of calbindin 1 reduction. Calbindin 1 interacts with a variety of proteins including caspase-3 and inositol monophosphatase (IMPase), the putative target of lithium therapy in bipolar disorder. Among normal tissues, Calbindin 1 is strongly expressed in Purkinje cells and associated axonal fibres of the cerebrum. A weaker expression occurs in neuronal cells of the cerebellum. Calbindin 1 is also seen in the cytoplasm of a fraction of distal tubuli of the kidney. Calbindin 1 expression is rather rare in tumors. The TCGA database on RNA expression in cancer has described upregulation of Calbindin 1 in a fraction of lung, colorectal, head and neck, urothelial, cervical and endometrial cancers.

Potential Research Applications

- The suitability of calbindin 1 as a marker for visualization of Purkinje cells and associated axons should be evaluated.
- The clinical significance of calbindin 1 protein expression levels in the brain and in specific areas of the brain should be further investigated.
- The role of calbindin 1 in renal cell cancer and in other cancer entities is unclear.

Protocol Suggestions

Dilution: 1:150 ; pH7,8 is optimal.

Freshly cut sections should be used (less than 10 days between cutting and staining).

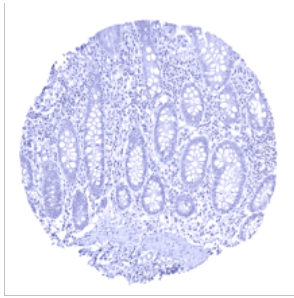
Limitations

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

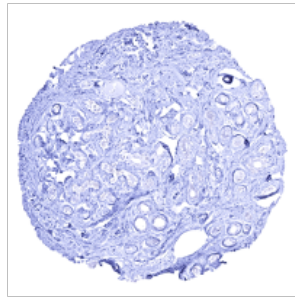
Not for resale without express authorization.

Warranty

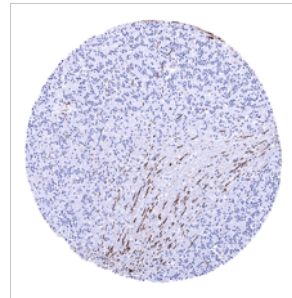
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



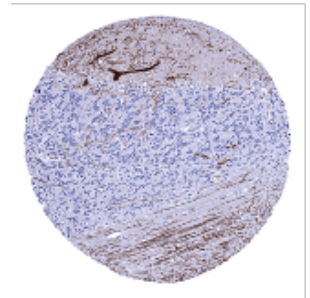
Appendix, mucosa



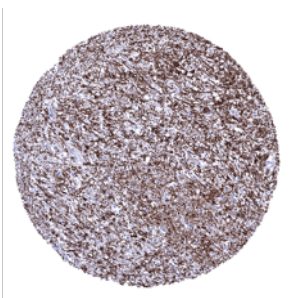
Breast



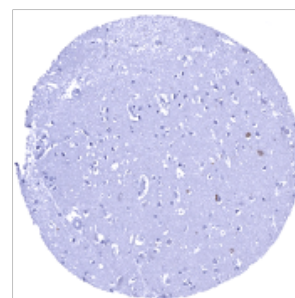
Cerebellum (molecular layer,
granule cell layer)



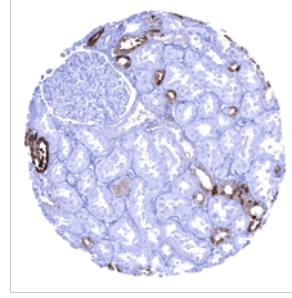
Cerebellum (molecular layer, Purkinje cell
layer, granule cell layer, white matter) -
Strong Calbindin 1 staining of Purkinje
cells and of associated axonal fibres in
the cerebellum



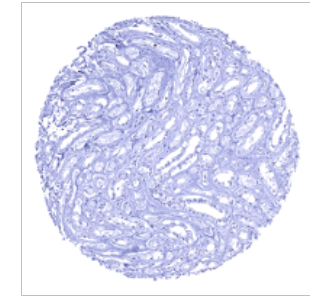
Cerebellum (white matter) - Strong
Calbindin 1 staining of axonal fibres
in the cerebellum



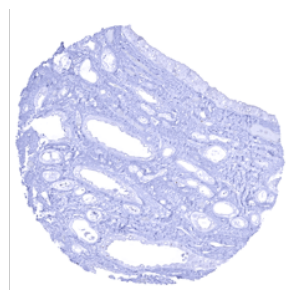
Cerebrum, grey matter - A weak to
moderate intensity cytoplasmic
Calbindin 1 immunostaining is seen
in some neuronal cells



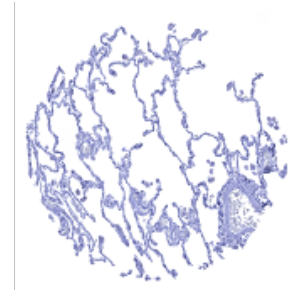
Kidney, cortex - Strong cytoplasmic
Calbindin 1 immunostaining occurs in
a fraction of distal tubuli of the kidney



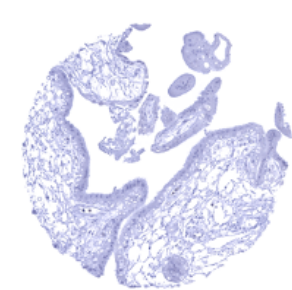
Kidney, medulla - Collecting ducts of
the kidney are Calbindin 1 negative



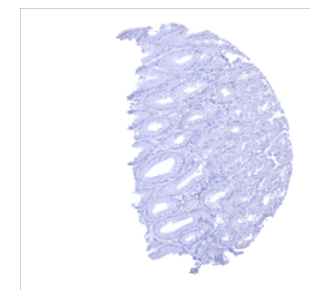
Kidney, pelvis, urothelium



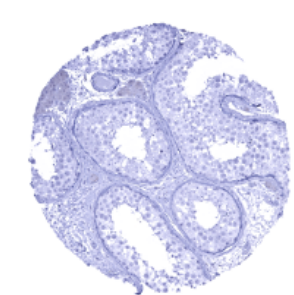
Lung



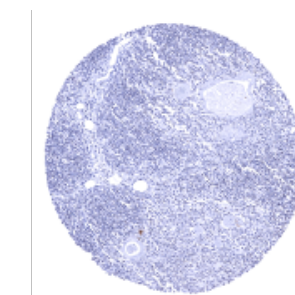
Placenta, early



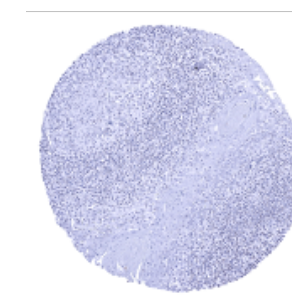
Stomach, corpus



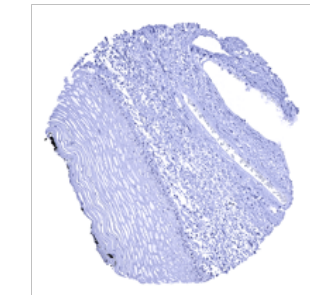
Testis



Thymus



Tonsil



Uterus, ectocervix