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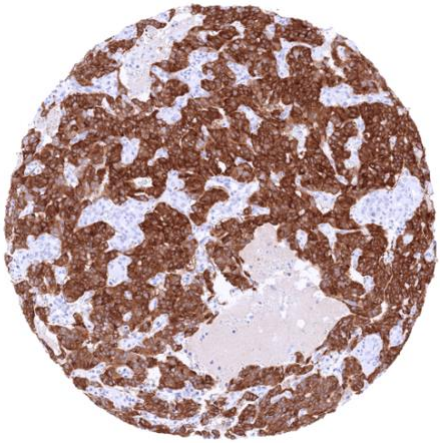
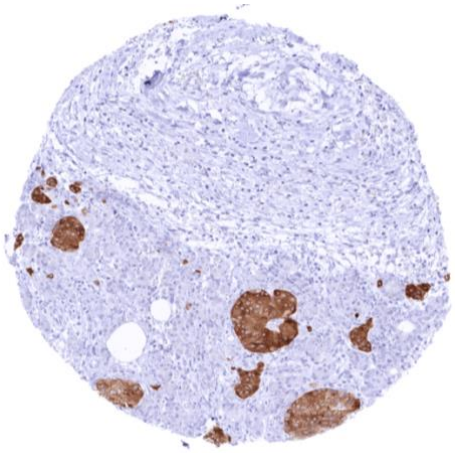
Anti- GAD2 Antibody
MSVA-602M / Mouse monoclonal

Human SwissProt	Q05329
Human Gene Symbol	GAD2
Synonyms	GAD65
Specificity	GAD2
Immunogen	Recombinant human GAD2 (GAD65) protein fragment (around aa 6-99) (exact sequence is proprietary)
Isotype	Mouse / IgG2b, kappa
Species Reactivity	Human

Localization	Intracellular
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. Also available without BSA
Positive Control	Pancreas: A strong GAD2 staining should be seen in pancreatic islet cells.
Negative Control	Colon: GAD2 immunostaining should be absent in all cell types.



Pancreatic neuroendocrine tumor with strong GAD2 immunostaining of tumor cells



Strong cytoplasmic GAD2 staining of pancreatic islet cells

Strong GAD2 staining of nerve fibres in the grey matter of the cerebrum

Biology

Glutamate decarboxylase 2 (GAD2) is coded by the GAD2 gene at chromosome 10p12. It is one out of two glutamate decarboxylases that catalyze the decarboxylation of glutamate to GABA and CO2. GABA (gamma-Aminobutyric acid) is the most relevant inhibitory neurotransmitter in the central nervous system which serves the purpose of reducing neuronal excitability. In the brain, GAD2 is therefore required at nerve terminals and synapses. In the pancreas, GAD2 plays a role in insulin-producing β-cells of pancreatic islets. GAD2 is involved in several different disease types. It acts as a target for autoantibodies in people who later develop type 1 diabetes. Downregulation of GAD2 occurs in autism. Among normal tissues, GAD2 immunostaining occurs in the brain (strong staining of fibres) and in islet cells of the pancreas. Among tumors, GAD2 immunostaining is often seen in neuroendocrine tumors of the pancreas and - much less commonly - also in various other tumor entities.

Potential Research Applications

-The function of GAD2 in neurological and behavioral disorders deserves further investigation.

-The diagnostic utility of GAD2 immunohistochemistry has not been evaluated.

Protocol Suggestions

Dilution: 1:150. 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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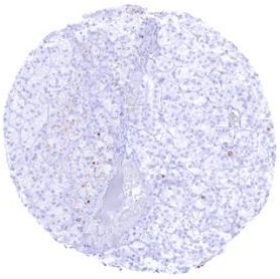
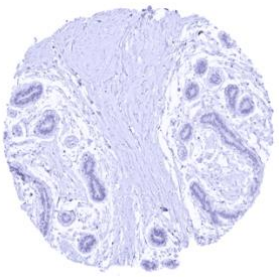
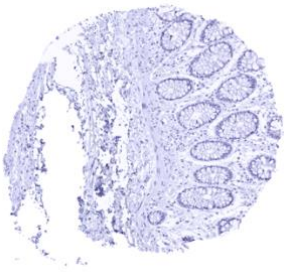


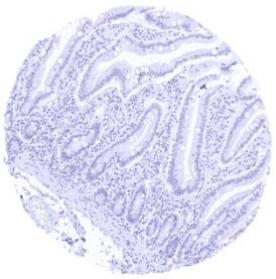
Adrenal gland



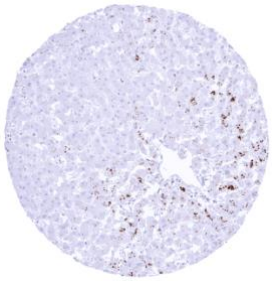
Breast



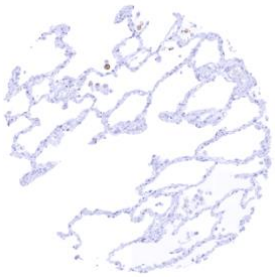
Colon descendens, mucosa



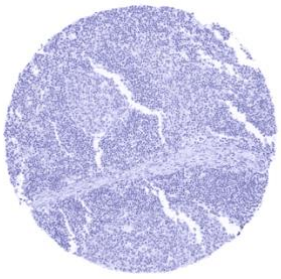
Duodenum, mucosa



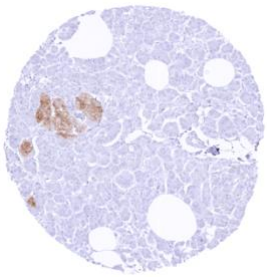
Liver - Pigment is prominently visible in this liver sample



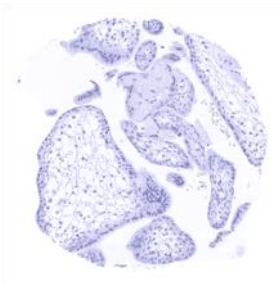
Lung



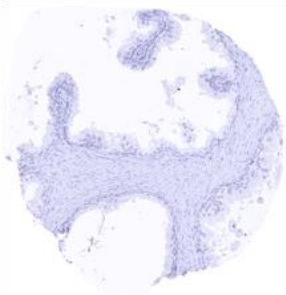
Lymph node



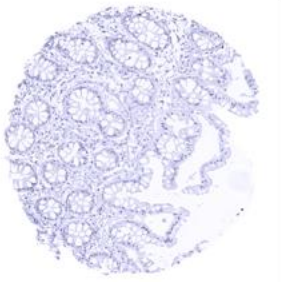
Pancreas – Moderate intensity cytoplasmic GAD2 staining of islet cells



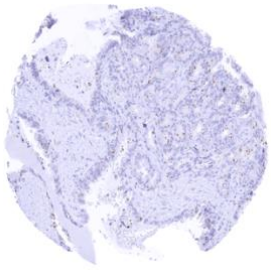
Placenta, early



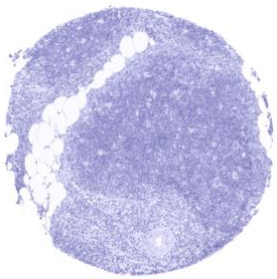
Prostate



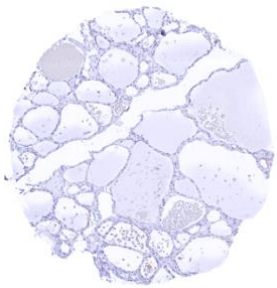
Rectum, mucosa



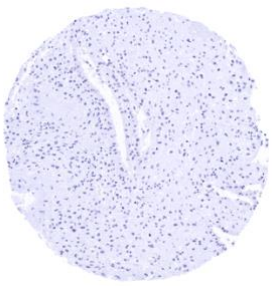
Seminal vesicle



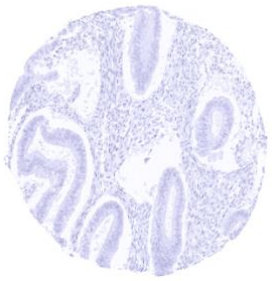
Thymus



Thyroid gland



Uterus, endometrium (pregnancy)



Uterus, endometrium (secretion)