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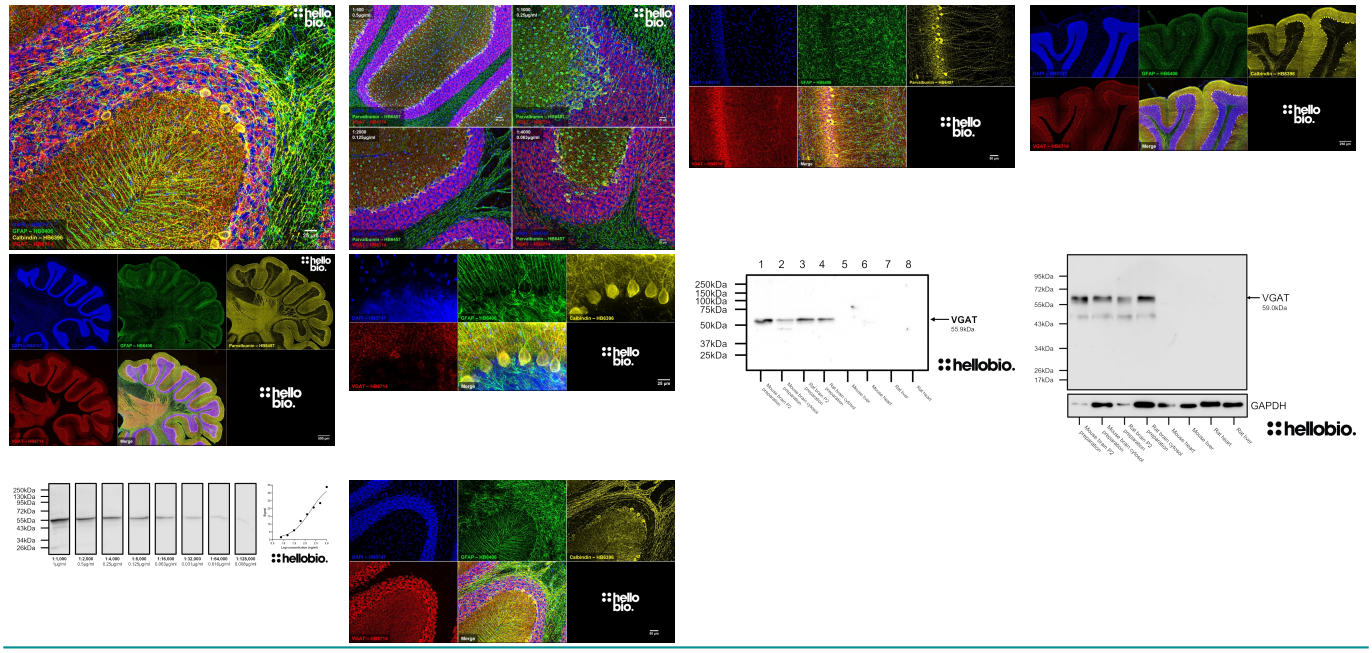
DATASHEET

Anti-Vesicular GABA transporter (VGAT) antibody ValidAb™

Product overview

Name	Anti-Vesicular GABA transporter (VGAT) antibody ValidAb™
Cat No	HB6714
Host	Rabbit
Clonality	Polyclonal
Target	VGAT
Description	Antibody to VGAT - GABA transporter and GABAergic neuron marker. Part of the ValidAb™ range of highly validated, data-rich antibodies.

Validation data



Product information

Immunogen	Synthetic peptide of N-terminal rat VGAT residues conjugated to keyhole limpet hemocyanin (KLH).
Isotype	IgG
Purification	Immunogen affinity chromatography
Concentration	0.25 mg/ml
Formulation	10 mM HEPES (pH 7.5), 150 mM NaCl, 100µg/ml BSA, and 50% glycerol.
Predicted species reactivity	Mouse, Rat, Dog, Chicken, Cow, Monkey
Tested species reactivity	Mouse, Rat

Tested applications

Applications	WB, IHC(IF)
Western blot optimal concentration	0.25µg/ml (1:1,000) as tested in a rat brain P2 membrane fraction preparation.

IHC(IF) optimal concentration	0.25µg/ml (1:1,000) as tested in paraformaldehyde fixed free-floating rat brain sections.
Positive control	VGAT is expressed widely across all brain regions in GABAergic neurones.
Negative control	VGAT expression is absent from most non-neural tissues (including the liver and muscle) and the vast majority of human cell lines (e.g. HEK293T and HeLa)
Open data link	Please follow this link to OSF.

Target information

Other names	SLC32A1, VIAAT, Vesicular inhibitory amino acid transporter
UniProt ID	Q9H598
Gene name	SLC32A1
NCBI full gene name	solute carrier family 32 member 1
Entrez gene ID	140679
Amino acids	525 (57.4kDa)
Isoforms	VGAT has only one described isoform
Expression	VGAT is expressed in GABAergic interneurons and glycinergic neurons in various regions of the central nervous system (CNS), including the cortex, hippocampus, cerebellum, and spinal cord. Additionally, VGAT is also expressed in some non-neuronal cells, such as pancreatic beta cells, where it plays a role in the release of GABA as a neurotransmitter or a paracrine signaling molecule.
Subcellular expression	VGAT expression is localised to synapses and is not expressed in the cell bodies, axons or dendrites of neurones.
Target function	VGAT mediates the loading of GABA and glycine into synaptic vesicles in GABAergic and glycinergic inhibitory neurones. This enables their release into the synaptic cleft to mediate inhibitory signaling and helps to maintain the balance between excitatory and inhibitory neurotransmission by regulating the amount of inhibitory neurotransmitter in synaptic vesicles.
Processing	VGAT is not subject to any processing in order to form an active conformation
Post translational modifications	VGAT is subject to phosphorylation on S98 and nitration on Y186.
Homology (compared to human)	Mouse and rat VGAT show 98.5% identity to human VGAT. Mouse and rat VGAT homologues show 99.6% identity (A77P and L384I)
Similar proteins	No similar proteins to VGAT were identified in a BLAST search.

Storage & Handling

Storage instructions	-20°C
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

The vesicular GABA transporter, VGAT, localizes to synaptic vesicles in sets of glycinergic as well as GABAergic neurons.

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