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VGAT cytoplasmic domain

Cat.No. 131 013; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	$50~\mu g$ specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add $50~\mu l~H_2O$ to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1: 1000 (AP staining) IP: yes ICC: 1: 500 IHC: 1: 500 IHC-P/FFPE: not tested yet EM: yes This antibody is first choice for electron microscopy.
Immunogen	Recombinant protein corresponding to AA 2 to 115 from rat VGAT (UniProt Id: O35458)
Reactivity	Reacts with: rat (O35458), mouse (O35633), zebrafish. Other species not tested yet.
Specificity	Specific for VGAT. (K.O. verified)
matching control	131-0GP
Remarks	VGAT aggregates after boiling, making it necessary to run SDS-PAGE only with non-boiled samples.

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

The **v**esicular **GABA** transporter **VGAT** is responsible for uptake and storage of GABA and glycine by synaptic vesicles in the central nervous system. For this reason it is frequently referred to as the **v** esicular **i**nhibitory **a**mino**a**cid **t**ransporter **VIAAT**. It is different from the plasma membrane transporters in that it is driven by a proton electrochemical gradient across the vesicle membrane. So far, only one isoform is known. VGAT is currently the best marker for inhibitory nerve terminals.

Selected References SYSY Antibodies

Electron tomography on γ-aminobutyric acid-ergic synapses reveals a discontinuous postsynaptic network of filaments. Linsalata AE, Chen X, Winters CA, Reese TS

The Journal of comparative neurology (2014) 522(4): 921-36. EM, ICC; tested species: rat

Olig2-Lineage Astrocytes: A Distinct Subtype of Astrocytes That Differs from GFAP Astrocytes.

Tatsumi K, Isonishi A, Yamasaki M, Kawabe Y, Morita-Takemura S, Nakahara K, Terada Y, Shinjo T, Okuda H, Tanaka T, Wanaka A,

Frontiers in neuroanatomy (2018) 12: 8. IHC, EM; tested species: mouse

CSPa knockout causes neurodegeneration by impairing SNAP-25 function.

Sharma M, Burré J, Bronk P, Zhang Y, Xu W, Südhof TC

The EMBO journal (2012) 31(4): 829-41. WB; tested species: mouse

Quantitative comparison of glutamatergic and GABAergic synaptic vesicles unveils selectivity for few proteins including MAL2, a novel synaptic vesicle protein.

Grønborg M, Pavlos NJ, Brunk I, Chua JJ, Münster-Wandowski A, Riedel D, Ahnert-Hilger G, Urlaub H, Jahn R

The Journal of neuroscience: the official journal of the Society for Neuroscience (2010) 30(1): 2-12. IP; tested species: rat

Redundant and nonredundant organismal functions of EPS15 and EPS15L1.

Milesi C, Alberici P, Pozzi B, Oldani A, Beznoussenko GV, Raimondi A, Soppo BE, Amodio S, Caldieri G, Malabarba MG, Bertalot G, et al.

Life science alliance (2019) 2(1): . WB; tested species: mouse

Dorsal CA1 interneurons contribute to acute stress-induced spatial memory deficits.

Yu JY, Fang P, Wang C, Wang XX, Li K, Gong Q, Luo BY, Wang XD

Neuropharmacology (2018):. IHC; tested species: mouse

Sleep-Dependent Structural Synaptic Plasticity of Inhibitory Synapses in the Dendrites of Hypocretin/Orexin Neurons.

Elbaz I, Zada D, Tovin A, Braun T, Lerer-Goldshtein T, Wang G, Mourrain P, Appelbaum L

Molecular neurobiology (2017) 54(8): 6581-6597. IHC

γ-Aminobutyric Acid Type A (GABAA) Receptor Subunits Play a Direct Structural Role in Synaptic Contact Formation via Their N-terminal Extracellular Domains.

Brown LE, Nicholson MW, Arama JE, Mercer A, Thomson AM, Jovanovic JN

The Journal of biological chemistry (2016) 291(27): 13926-42. ICC

Immunogold characteristics of VGLUT3-positive GABAergic nerve terminals suggest corelease of glutamate.

Stensrud MJ, Sogn CJ, Gundersen V

The Journal of comparative neurology (2015) 523(18): 2698-713. IHC

GABA is localized in dopaminergic synaptic vesicles in the rodent striatum.

Stensrud MJ, Puchades M, Gundersen V

Brain structure & function (2014) 219(6): 1901-12. EM; tested species: rat

Isolation of an anorexigenic protein from membranes.

Kidwai AM, Upreti RK

Molecular and cellular biochemistry () 91(1-2): 117-22. IHC; tested species: mouse

Selected General References

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

Chaudhry FA, Reimer RJ, Bellocchio EE, Danbolt NC, Osen KK, Edwards RH, Storm-Mathisen J

The Journal of neuroscience: the official journal of the Society for Neuroscience (1998) 18(23): 9733-50.

Identification and characterization of the vesicular GABA transporter.

McIntire SL, Reimer RJ, Schuske K, Edwards RH, Jorgensen EM

Nature (1997) 389(6653): 870-6.

Cloning of a functional vesicular GABA and glycine transporter by screening of genome databases.

Sagné C, El Mestikawy S, Isambert MF, Hamon M, Henry JP, Giros B, Gasnier B

FEBS letters (1997) 417(2): 177-83.

Uptake of GABA by rat brain synaptic vesicles isolated by a new procedure.

Hell JW, Maycox PR, Stadler H, Jahn R

The EMBO journal (1988) 7(10): 3023-9.