Human VMAT2 Antibody

Monoclonal Mouse IgG_1 Clone # 899327

Catalog Number: MAB8327

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VMAT2 in ELISAs and Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 899327
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0 mouse myeloma cell line transfected with human VMAT2 Met1-Asp514 Accession # Q05940
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

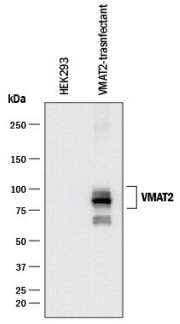
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunohistochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

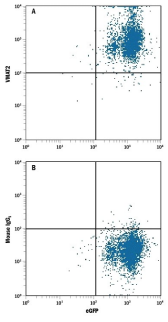
DATA

Western Blot



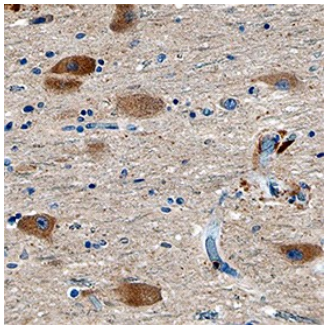
Detection of Human VMAT2 by Western Blot. Western blot shows lysates of HEK293 human embryonic kidney cell line either mock transfected or transfected with human VMAT2. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human VMAT2 Monoclonal Antibody (Catalog # MAB8327) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for VMAT2 at approximately 75-100 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of VMAT2 in HEK293 Human Cell Line Transfected with Human VMAT2 and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with human VMAT2 and eGFP was stained with either (A) Mouse Anti-Human VMAT2 Monoclonal Antibody (Catalog # MAB8327) or (B) Mouse IgG_1 Isotype Control (Catalog # MAB002) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B).

Immunohistochemistry



VMAT2 in Human Brain. VMAT2 was detected in immersion fixed paraffin-embedded sections of human brain (substantia nigra) using Mouse Anti-Human VMAT2 Monoclonal Antibody (Catalog # MAB8327) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal cell bodies. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

The Vesicular Monoamine Transporter 2 (VMAT2), also known as VAT2 and SCL18A, is a 55-75 kDa member of the vesicular transporter family, a major facilitator superfamily. VMAT2 is a 12 transmembrane (TM) glycoprotein that is found in the membrane of brain neurosecretory vesicles. It transports monoamines (dopamine, serotonin, and particularly histamine) from the cytosol into secretion vesicles by exchanging two H^+ ions for one molecule of amine. Human VMAT2 is 514 amino acids (aa) in length. It contains two cytoplasmic domains, a 20 aa and a 52 aa N- and C-terminal respectively, plus an extended 88 aa luminal loop between aa 42-129. There is one luminal, intrachain disulfide bond that contributes to amine transport (C126-C333). In addition, residues in TM domains 5-8 (aa 220-352) and 9-12 (aa 358-462) also contribute to high affinity ligand interaction. VMAT2 is constitutively phosphorylated by CKII on S511 and S513. Within the cytoplasmic C-terminus, human VMAT2 is 94% aa identical to rat VMAT2.

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