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VGLUT1 Recombinant Alpaca VHH (SdAb2412.VGLUT1) - MiniMab™

Recombinant Alpaca VHH targeting vesicular glutamate transporter 1 (VGLUT1), part of our MiniMab™ SdAb series that have been engineered for optimal conjugate performance.

Product Description

VGLUT1 Recombinant Alpaca VHH (SdAb2412.VGLUT1) recognizes the vesicular glutamate transporter 1 (VGLUT1) expressed during neurotransmission. This high-affinity single-domain antibody (SdAb), also known as camelid VHH or Nanobody®, is part of our MiniMab™ series of highly optimized conjugated probes. The SdAb has been validated for immunofluorescence microscopy and is available conjugated to CF® Dyes.

Features of MiniMab™ single-domain antibodies

- Superior to conventional antibodies: deeper tissue penetration, higher solubility and stability, and faster staining
- Minimal epitope-dye displacement—perfect for super-resolution imaging
- Specifically developed and optimized for immunofluorescence
- Labeled with bright, photostable CF® Dyes, including near-infrared CF®740 option
- Available as conjugates with Biotium's best-in-class dyes for STORM

VGLUT1 is mainly found on synaptic vesicles at glutamatergic synapses, where it uses the proton gradient generated by vesicular ATPase to load glutamate into vesicles before their fusion with the plasma membrane and neurotransmitter release into the synaptic cleft.

This recombinant alpaca VHH binds strongly and specifically to the cytoplasmic region of rat and mouse VGLUT1 and is expected to also recognize human VGLUT1 due to high sequence similarity.

Learn more about MiniMab™ single domain antibodies paired with Biotium's industry-leading CF® Dyes for super-resolution as well as our innovative reagents for immunofluorescence microscopy; this includes our NucSpot® Nuclear Stains for bright and nuclear-specific staining in a wide color selection, and CytoLiner™ Fixed Cell Membrane Stains for robust membrane staining in formaldehyde-fixed cells.

View our full selection of primary and secondary antibodies available with bright CF® Dyes and other labels.

Product attributes

Antibody number	N003
Antibody type	MiniMab™ SdAb (VHH), Primary
Clonality	Recombinant single-domain antibody
Host species	Alpaca
Clone	SdAb2412.VGLUT1
Isotype	VHH
Antibody reactivity (target)	VGLUT1 (cytoplasmic domain)
Synonyms	Solute carrier family 17 member 7, SLC17A7, vesicular glutamate transporter
Species reactivity	Human, Mouse, Rat
Human gene symbol	SLC17A7
Entrez gene ID	116638
Molecular weight of antigen	62 kDa
Cell/tissue expression	Neurons
Verified antibody applications	IF (verified)
Positive control	Brain, Retina
Antibody application notes	Immunofluorescence: 0.1 ug/mL; Optimal concentration to be determined by end-user.
Antibody research areas	Neuroscience
Antibody/conjugate formulation	Conjugates: PBS/0.1% rBSA/0.05% azide, Purified, BSA-free: 2 mg/mL in PBS without azide
Shelf life	Guaranteed for at least 24 months from date of receipt when stored as recommended
Storage Conditions	Store conjugates at 2 °C to 8 °C, Protect fluorescent conjugates from light
Shipping condition	Room temperature
Regulatory status	For research use only (RUO)
Product origin	Recombinant alpaca VHH produced in E.coli, Recombinant BSA produced in Chinese hamster ovary cells

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Conjugation	Ex/Em	Conc.	STORM[1] compatibility	Catalog No.	Dye Features
CF®488A	490/516 nm	100 ug/mL	Yes	N003-488A-200UL	CF®498 Features
CF®498	498/519 nm	100 ug/mL	Yes	N003-498-200UL	
CF®568	562/584 nm	100 ug/mL	Yes	N003-568-200UL	CF®568 Features
CF®583R	585/609 nm	100 ug/mL	Yes	N003-583R-200UL	CF®583R Features
CF®647	652/668 nm	100 ug/mL	Yes	N003-647-200UL	CF®647 Features
CF®660C	667/685 nm	100 ug/mL	Yes	N003-660C-200UL	CF®660C Features
CF®680	681/698 nm	100 ug/mL	Yes	N003-680-200UL	CF®680 Features
CF®740	742/767 nm	100 ug/mL	No	N003-740-200UL	CF®740 Features

[1] STORM: Stochastical optical reconstruction microscopy. Learn more about CF® Dyes for super-resolution.