

Datasheet for 200-401-GM6**VHH Antibody****Overview**

Description:	Anti-VHH (RABBIT) Antibody - 200-401-GM6
Item No.:	200-401-GM6
Size:	100 µg
Applications:	ELISA, WB, IF
Reactivity:	Llama
Host Species:	Rabbit

Product Details

Background: Rabbit Anti-VHH antibody can be used to detect single domain VHH antibodies. The single-domain antibody (sdAb) is a small (12 - 14 kDa) antibody fragment that consists of a monomeric variable domain derived from the heavy chain, also called a VHH antibody. These heavy chain only Fab-like domains have activity that is similar to a whole antibody, and they are able to bind to a specific antigens. SdAb's are derived from camelid species that include llamas, alpacas and camels. Camelids produce both classical (containing heavy and light chain fragments) and non-classical antibody structures (containing only a heavy chain). VHH antibodies are the smallest functional antigen-binding fragment that occurs in nature and these are now being used in biotechnology as a novel antibody scaffold. The small size of the VHH single domain antibody makes it very attractive for use in diagnostic imaging and they have potential for therapeutic activity.

Synonyms:	rabbit anti-VHH Antibody, single-domain antibody (sdAb), camelid VHH antibody
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Reactivity:	Llama
Immunogen Type:	Recombinant Protein

Immunogen:	This antibody was prepared from whole rabbit serum produced by repeated immunizations with a VHH camelid domain protein.
Purity/Specificity:	Anti-VHH is directed against the llama VHH protein fragment. The product was purified from monospecific antiserum by protein A chromatography. Anti-VHH antibody detects recombinant VHH proteins, native Llama IgG2 and native Llama IgG3.

Application Details

Tested Applications:	ELISA, WB
Suggested Applications:	IF (Based on references)
Application Note:	Anti-VHH antibody has been tested by ELISA and Western blot. Specific conditions for reactivity should be optimized by the end user. Some cross-reactivity to E.coli proteins may be observed.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000-1:50,000
WB:	1:1,000-1:5,000

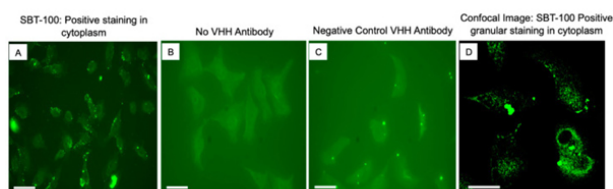
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.08 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

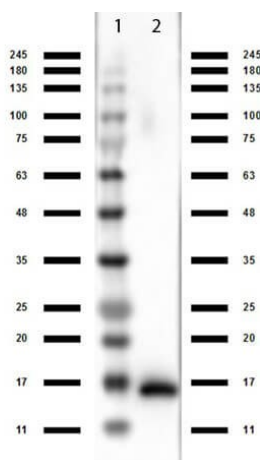
Images



Immunofluorescence Microscopy

SBT-100 penetrates cell membrane of TNBC cell line, MDA-MD-231. (A) Immunofluorescence staining of MDA-MB-231 cells incubated with SBT-100 antibody showed positive cytoplasmic staining using the anti-His tag antibody in green channel. (B) MDA-MB-231 cells with no VHH antibody were negative. (C) No cytoplasmic positive staining was seen with the negative control irrelevant VHH antibody (anti-HIV 1-reverse transcriptase VHH) with traditional fluorescence microscopy. (D) Confocal image of SBT-100 detection is shown as granular staining located throughout the cytoplasm. The observed staining of SBT-100 in (A,D) is cytosolic and not endocytic. The scale bars in the lower-left corner of each panel represent 100 μ m. Fig 1.

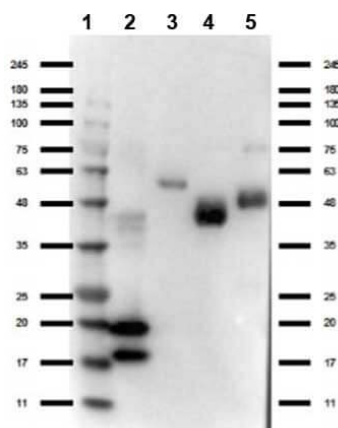
PMID: 35886918



Western Blot

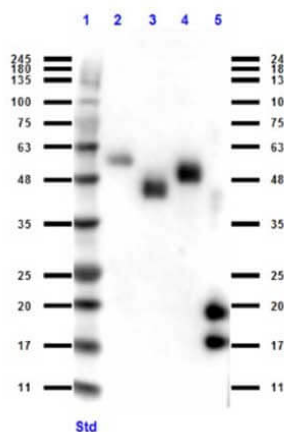
Western Blot of Rabbit Anti-VHH Antibody detecting VHH. Lane 1: MW Ladder Opal pre-stained (p/n MB-210-0500). Lane 2: VHH.

Load: 0.50 μ g per lane. Primary Antibody: Anti-VhH Antibody (p/n 200-401-GM6) at 1 μ g/mL for overnight at 4°C. Secondary Antibody: Rabbit Secondary HRP Antibody (p/n 611-103-122) at 1:70,000 for 30 min at RT. Block: MB-070 at RT for 30 min. Predicted/Observed size: ~15 kDa.



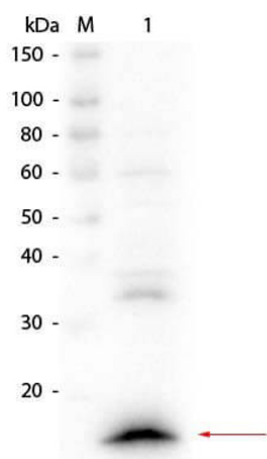
Western Blot

Western Blot of Rabbit anti-VHH antibody. Lane 1: Ladder (Opal Prestained). Lane 2: VHH protein (p/n 000-001-GM6). Lane 3: Llama IgG1 protein (p/n 025-0140). Lane 4: Llama IgG2 protein (p/n 025-0144). Lane 5: Llama IgG3 protein (p/n 025-0143). Load: 50 ng per lane. Primary antibody: VHH antibody at 1:1000 for overnight at 4°C. Secondary antibody: Gt-a-Rb HRP (611-103-122) rabbit secondary antibody at 1:70,000 for 30 min at RT. Block: MB-070 for 30 min at RT. Predicted/Observed size: expect 15 and 18 kda band in VHH protein and reactivity with Llama IgG isotypes.



Western Blot

Western Blot of Rabbit anti-VHH antibody. Lane 1: MW ladder (opal pre-stained) p/n (MB-210-0500). Lane 2: Llama IgG1 protein (p/n 025-0140). Lane 3: Llama IgG2 protein (p/n 025-0144). Lane 4: Llama IgG3 protein (p/n 025-0143). Lane 5: VhH protein (p/n 000-001-GM6). Load: 50 ng per lane. Primary antibody: VHH antibody at 1:1000 for overnight at 4°C. Secondary antibody: rabbit secondary HRP antibody (p/n 611-103-122) at 1:40,000 for 45 min at RT. Block: BlockOut (p/n MB-070) overnight at 4°C. Predicted/Observed size: expect 15 and 18 kda band in VHH protein and reactivity with Llama IgG isotypes.



Western Blot

Western Blot of Rabbit anti-VHH Antibody. Lane 1: HeLa whole cell lysate spiked with VHH single-domain antibody. Load: 10 µg lysate with 25 ng VHH. Primary antibody: Rabbit anti-VHH Antibody at 1:1,000 o/n at 4°C. Secondary antibody: HRP Gt-a-Rb IgG (p/n 611-103-122) at 1:40,000 for 30 min at RT. Block: MB-070 for 30 min at RT. Predicted/Observed size: 15 kDa, 15 kDa for VHH.

References

- Singh, S et al. A Broad-Based Characterization of a Cell-Penetrating, Single Domain Camelid Bi-Specific Antibody Monomer That Targets STAT3 and KRAS Dependent Cancers. *International Journal of Molecular Sciences* (2022)

Disclaimer

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