

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

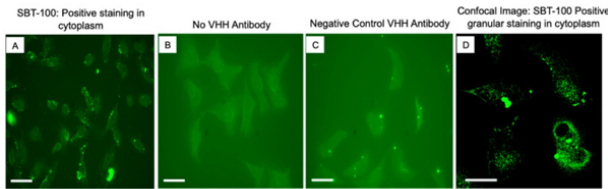
Formulation

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.

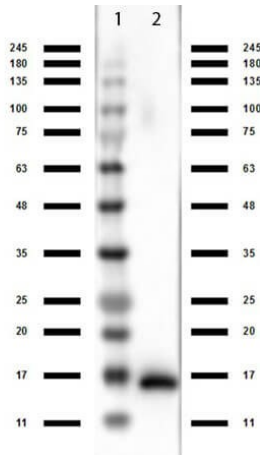
Images



Immunofluorescence Microscopy

SBT-100 penetrates cell membrane of TNBC cell line, MDA-MB-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.

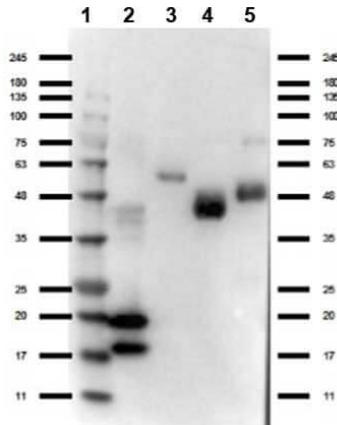
PMID: 35886918



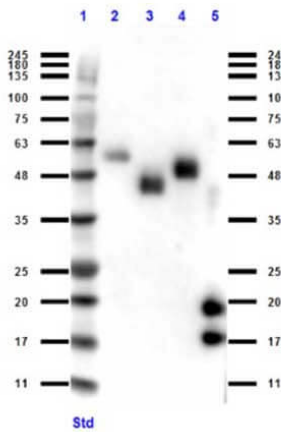
Western Blot

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

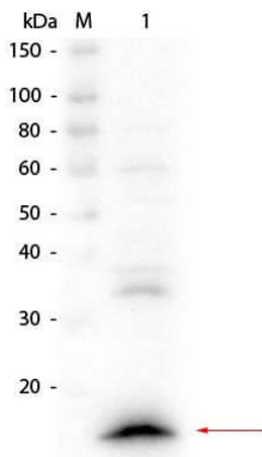
Load: 0.50 μ g per lane. Primary Antibody: Anti-VhH Antibody (p/n 200-401-GM6) at 1 μ g/mL for overnight at 4 $^{\circ}$ C. Secondary Antibody: Rabbit Secondary HRP Antibody (p/n 611-103-122) at 1:70,000 for 30 min at RT. Block: MB-070 at RT for 30 min. Predicted/Observed size: ~15 kDa.


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

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.