

Datasheet for 400-001-MG2**Recombinant DIG (DIG45) Antibody****Overview**

Description:	Anti-DIG (VHH) Single Domain Antibody - 400-001-MG2
Item No.:	400-001-MG2
Size:	50 µg
Applications:	ELISA, WB
Reactivity:	Digitalis sp.
Origin:	Llama
Expressed in:	E. coli

Product Details

Background: Digoxigenin is a cardenolide steroid isolated from the plant species of the genus Digitalis. It has a role as a hapten and a plant metabolite and can be obtained by hydrolysis of digoxin. Digoxigenin or DIG is one of the most common reporters used with nucleotides and requires the use of a conjugated anti-digoxigenin antibody. Since digoxigenin is a plant-related chemical not found in mammalian tissues, it is widely used as a method for generating non-radioactive probes, and is an alternative to biotin. DIG is an all-purpose immuno-tag, and in particular a standard marker for immunohistochemistry and in situ hybridization that supports both chromogenic and chemiluminescence detection.

A single-domain antibody (sdAb) is a small antibody fragment consisting of the monomeric variable domain derived from camelid heavy chain-only immunoglobulins naturally found in llamas, alpacas and camels. Also known as VHH antibodies, these are the smallest functional antigen-binding fragment that occurs in nature (12 - 14 kDa) and 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 potentially therapeutic applications.

Synonyms:	anti-Digoxigenin, Digoxigenin (DIG), 1672-46-4, Lanadigenin, Digoxigenine, UNII-NQ1SX9LNAU, DIG, CHEBI:42098, HSDB 7108, NQ1SX9LNAU, EINECS 216-806-2, BRN 0096479, 4-(3,12,14-Trihydroxy-10,13-Dimethyl-Hexadecahydro-Cyclopenta[a]Phenanthren-17-Yl)-5h-Furan-2-One
Species of Origin:	Llama
Expressed in:	E. coli
Clonality:	Recombinant Monoclonal

Clone ID: DIG45

Target Details

Gene Name:	Digoxigenin
Reactivity:	Digitalis sp.
Purity/Specificity:	Anti-DIG (VHH) Antibody is a recombinant antibody. The clone was isolated from a library prepared from a hyper-immunized llama host and purified by affinity chromatography from bacterial culture. Expect reactivity against DIG-labeled probes and proteins.
Relevant Links:	PubChem - 15478

Application Details

Tested Applications:	ELISA, WB
Application Note:	Anti-DIG is a his-tagged monoclonal recombinant antibody designed to detect digoxigenin and its conjugates. This antibody has been tested by ELISA and western blot and is intended for use in immunological assays including ELISA, western blotting, immunofluorescence and fluorescence activated cell sorting (FACS). Fluorochrome conjugated anti-DIG can be used for detection of sensitive non-radioactive in situ hybridization probes. The antibody can be labeled with dyes, enzymes or fluorescence, directly or secondarily, for visualization and detection of DIG-conjugated molecules by immunoblotting or immunofluorescence. Secondary detection can be achieved using conjugated anti-His tag or anti-VHH antibodies. Optimal titers for applications should be confirmed by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:2000
WB:	1:1000

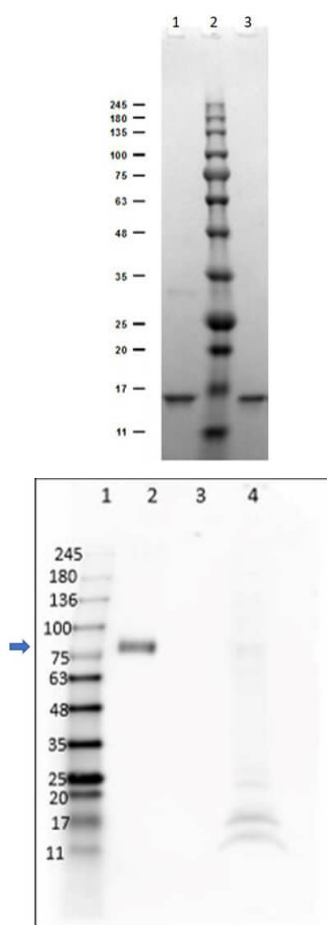
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by modified Lowry assay
Buffer:	1X PBS, pH 7.4
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	20% (v/v) Glycerol

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store 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

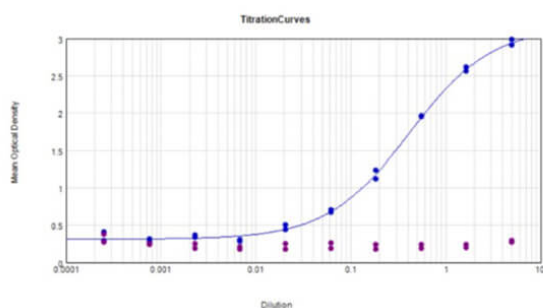


SDS-PAGE

SDS-PAGE Results of Recombinant Anti-DIG Single Domain Antibody. Lane 1: Anti-DIG-VhH (Clone DIG45) Reduced (1µg). Lane 2: Opal Prestained Molecular Weight Marker (p/n MB-210-0500). Lane 3: Anti-DIG-VhH (Clone DIG45) Non-Reduced (1µg). 4-20% Gel Coomassie Blue stained. Expected MW: ~15kDa. Observed MW: ~16kDa.

Western Blot

Western Blot of Anti-DIG Single Domain Antibody. Lane 1: Opal Prestained Molecular Weight Marker (p/n MB-210-0500) (5µL). Lane 2: DIG-BSA conjugated (0.2µg). Lane 3: BSA only (0.2µg). Lane 4: HEK293T lysate (p/n W09-001-GX5) (20µg). Primary Antibody: Anti-DIG (VhH) at 1µg/mL incubated overnight at 4°C. Secondary Antibody: Mouse Anti-6X HIS DyLight™649 (p/n 200-343-382) at 1:1000 incubated for 1hr at RT. Blocking buffer: Universal Buffer (p/n MB-070) for 2hrs at RT. Expected MW: ~80kDa in DIG +BSA. Observed MW: ~80kDa in DIG+BSA (arrow); secondary background seen in current tested lot of HEK293T Lysate.



ELISA

ELISA Results of purified recombinant Anti-DIG Single Domain Antibody reactive against BSA-conjugated DIG. The working dilution for clone DIG45 is 1:2000. Each well was coated in duplicate with 1.0µg of BSA conjugated DIG (Blue) and BSA only (Purple). The starting dilution of antibody was 45µg/ml and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using Sodium Carbonate blocking buffer, Mouse Anti-6X HIS Epitope Tag HRP conjugated Antibody (p/n 200-303-382) and TMB substrate (p/n TMBE-1000).

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.