Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for 609-142-007

Human IgM (mu chain) Antibody DyLight™ 549 Conjugated

Overview

Description:	Goat Anti-Human IgM (mu chain) Antibody DyLight™ 549 Conjugated - 609-142-007
Item No.:	609-142-007
Size:	100 µg
Applications:	Microarray, WB
Reactivity:	Human
Host Species:	Goat

Product Details

Background:	Anti-Human IgM (mu heavy chain) DyLight 549 generated in goat detects specifically Human IgM mu heavy chain. Immunoglobulin M is the largest antibody isotype and the first to be secreted against an initial exposure to antigen. IgM is predominantly produced in the spleen. Formed from covalently linking 5 immunoglobulins together. Anti-Human IgM mu chain antibody is ideal for investigators in Immunology, Microbiology, and Cell Biology.
Synonyms:	Goat Anti-Human IgM (mu chain) Antibody DyLight™ 549 Conjugated, Goat Anti Human IgM (mu chain) Antibody DyLight™ 549 Conjugated
Host Species:	Goat
Specificity:	IgM µ chain
Conjugate:	DyLight™ 549
Clonality:	Polyclonal
Format:	IgG
F/P Ratio:	3.6

Target Details

Reactivity:	Human
Immunogen:	Human IgM whole molecule

Purity/Specificity:	This product was prepared from monospecific antiserum by immunoaffinity chromatography using Human IgM coupled to agarose beads followed by solid phase adsorption(s) to remove any unwanted reactivities. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Goat Serum, Human IgM and Human Serum. No reaction was observed against other human heavy or light chain proteins.

Application Details

Suggested Applications:	Microarray, WB (Based on references)
Application Note:	The emission spectra for this DyLight™ conjugate match the principle output wavelengths of most common fluorescence instrumentation. Anti-Human IgM (mu heavy chain) DyLight 549 is designed for immunofluorescence microscopy, fluorescence based plate assays (FLISA) and fluorescent western blotting. This product is also suitable for multiplex analysis, including multicolor imaging, utilizing various commercial platforms.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
FLISA:	>1:20,000
IF:	>1:5,000
WB:	>1:10,000

Formulation

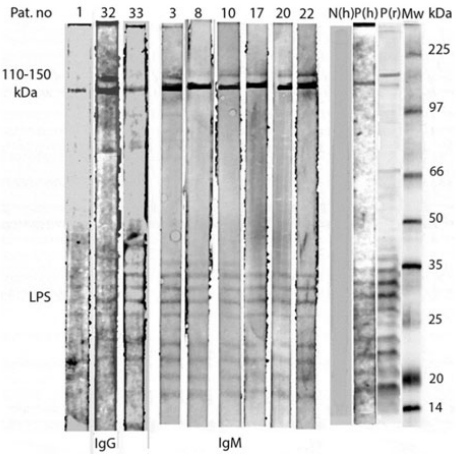
Physical State:	Lyophilized
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free
Reconstitution Volume:	100 µL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

Shipping & Handling

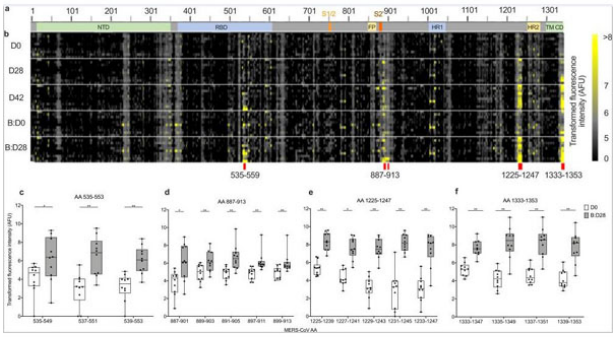
Shipping Condition:	Ambient

Storage Condition:	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. 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



Western Blot
Western Blot analysis of IgG and IgM antibodies against R. helvetica whole cell antigen demonstrates the lipopolysaccaride (LPS) ladders and specific reactions against R. helvetica proteins in the 110–150-kDa region in serum for IgG for patients 1, 32 and 33 and for IgM for patients 3, 8, 10, 17, 20 and 22 in dilution 1:200. Lane P(h) demonstrates specific proteins and the LPS ladders reacting with a positive human serum and P(r) with a polyclonal rabbit antiserum. N(h) represent a negative human serum control. Secondary antibody Anti-human IgG DyLight™549 (p/n 609–142-123) and Anti-human IgM DyLight™ 549 (p/n 609–142-007). Figure 1. PMID: 34712390.



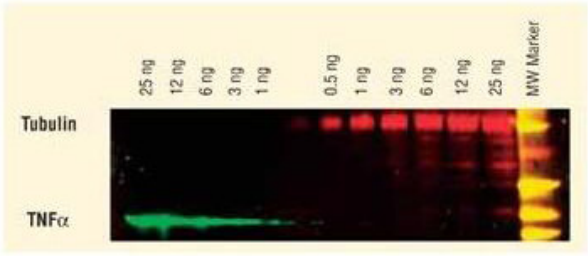
Figure

Identification of four immunogenic MERS-CoV-S epitopes. (a) Schematic representation of the MERS-CoV-S protein. The N-terminal domain (NTD), receptor-binding domain (RBD), S1/S2 cleavage site (S1/S2), fusion peptide (FP), S2' cleavage site (S2'), heptad repeat 1 and 2 (HR1, HR2), transmembrane domain (TM) and cytoplasmic domain (CD) are illustrated. (b) Microarray of 15-mer peptides spanning the complete MERS-CoV-S protein with a 13 amino acid (AA) overlap. Immunogenic B-cell peptides are marked with red lines. (c–f) IgG binding to the respective peptides on MERS-CoV-S was measured in fluorescence intensity (as arbitrary fluorescence units, AFU), depicted as transformed values (areas sinus hyperbolicus (asinh), y axis), in all booster study participants (n = 10). Mean levels of peptide-binding IgG at baseline (Day (D) 0 (D0), white boxes) and 28 days after booster vaccination (Boost Day (B:D) 28 (B:D28), gray boxes) were compared using a two-sided Wilcoxon matched-pairs signed rank test and are depicted for each peptide (x-axis) within the immunogenic epitopes c AA 535-553 (AA 535–549, p = 0.014; AA 537–551, p = 0.002; AA 539–553, p = 0.002), d AA 887–913 (AA 887–901, p = 0.027; AA 889–903, p = 0.006; AA 891–905, p = 0.002; AA 897–911, p = 0.002; AA 899–913, p = 0.002), e AA 1225–1247 (AA 1225–1239, p = 0.002; AA 1227–1241, p = 0.002; AA 1229–1243, p = 0.002; AA 1231–1245, p = 0.002; AA 1233–1247, p = 0.004) and f AA 1333–1353 (AA 1333–1347, p = 0.002; AA 1335–1349, p = 0.002; AA 1337–1351, p = 0.002; AA 1339–1353, p = 0.002). Boxes indicate 25–75 percentile; whiskers are min. to max.; medians are shown as horizonal lines within the boxes. *p < 0.05, **p < 0.005. Source data are provided as a Source Data file. Fig. 5. PMID: 35853863.

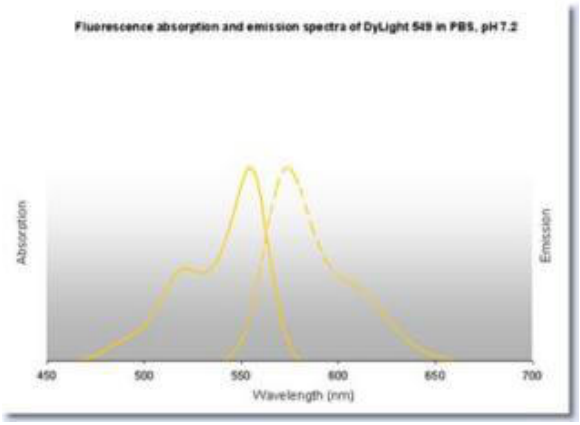
Diagram
Properties of DyLight™ Conjugates.

Emission	Color	DyLight™ Dye	Ex/Em (nm)	ε (M^{-1} cm^{-1})	Similar Dyes
Blue		**405**	**400/420**	**30,000**	**Alexa™ 405, Cascade Blue**
Green		488	493/518	70,000	Alexa™ 488, Cy2®, FITC
Yellow		549	550/568	150,000	Alexa™ 546, Alexa 555, Cy3®,TRITC
Red		649	646/674	250,000	Alexa™ 647, Cy5®
Near Infrared		680	682/715	140,000	Alexa™ 680, Cy5.5®, IRDye™ 700
Infrared		800	770/794	270,000	IRDye™ 800

Western Blot
DyLight™ dyes can be used for two-color Western Blot detection with low background and high signal. Anti-tubulin was detected using a DyLight™ 549 conjugate. Anti-TNFa was detected using a DyLight™ 649 conjugate. The image was captured using the Typhoon™ 9410 Imaging System.



Diagram



References

- Fathi, A et al. Increased neutralization and IgG epitope identification after MVA-MERS-S booster vaccination against Middle East respiratory syndrome. *Nature Communications* (2022)
- Paris G et al. Automated Laser-Transfer Synthesis of High-Density Microarrays for Infectious Disease Screening. *Adv Mater.* (2022)
- Wallmenius K et al. Retrospective serological study of Rickettsia spp. and Borrelia spp. antibodies in patients with peripheral facial nerve palsy. *Infect Ecol Epidemiol.* (2021)

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.