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Datasheet for 610-443-040

Mouse IgG1 (Gamma 1 chain) Antibody DyLight™ 649 Conjugated

Overview

Description:	Rabbit Anti-Mouse IgG1 (Gamma 1 chain) Antibody DyLight™ 649 Conjugated - 610-443-040
Item No.:	610-443-040
Size:	100 µg
Applications:	Microarray
Reactivity:	Mouse
Host Species:	Rabbit

Product Details

Background:	Anti-Mouse IgG1 DyLight 649 Antibody generated in rabbit detects reactivity to Mouse IgG1 (Gamma 1 chain). Secreted as part of the adaptive immune response by plasma B cells, immunoglobulin G constitutes 75% of serum immunoglobulins. IgG1 chain constitutes 66% of the IgG subclass and has a high affinity for binding to the Fc receptor of phagocytic cells. Secondary Antibodies are available in a variety of formats and conjugate types. When choosing a secondary antibody product, consideration must be given to species and immunoglobulin specificity, conjugate type, fragment and chain specificity, level of cross-reactivity, and host-species source and fragment composition.
Synonyms:	Rabbit Anti Mouse IgG1 (Gamma 1 chain) Antibody DyLight 649™ Conjugated, Rabbit Anti-Mouse IgG1 Antibody DyLight 649™ Conjugated
Host Species:	Rabbit
Specificity:	IgG1
Conjugate:	DyLight™ 649
Clonality:	Polyclonal
Format:	IgG
F/P Ratio:	3.2

Target Details

Reactivity:	Mouse

Immunogen:	Mouse IgG1 heavy chain
Purity/Specificity:	This product was prepared from monospecific antiserum by immunoaffinity chromatography using antigens 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-Rabbit Serum, Mouse IgG and Mouse Serum. Minimal cross reactivity was noted against other Mouse immunoglobulin classes or subclasses.

Application Details

Suggested Applications:	Microarray (Based on references)
Application Note:	This product 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. The emission spectra for this DyLight™ conjugate match the principle output wavelengths of most common fluorescence instrumentation.
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

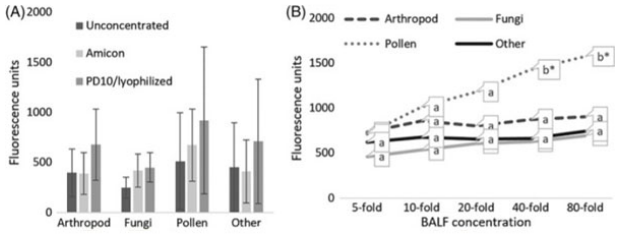


Figure
(A) Bronchoalveolar lavage concentration optimization. Average BALF IgE fluorescence results for each protein group demonstrating concentration efficacy for unconcentrated, and concentrated (10-fold) using either Amicon filter or PD10 columns/lyophilizing, A 1-way ANOVA for each protein group using a BALF pool from 6 horses (n = 3 SEA; n = 3 control) demonstrated there was no significant difference ($p > .05$). Means that have no superscript in common are significantly different from each other. (B) Average BALF pool horses (n = 3 SEA; n = 3 control) IgE fluorescence results for the main protein groups at various concentrations using Amicon filtration. Groupings included arthropod, fungi, pollen and other; which largely consisted of food and environmental proteins. Significant differences of each protein group were calculated individually by 1-way ANOVA with Tukey's HSD (* = $p < .05$). Means that have no superscript in common are significantly different from each other. Figure 1. PMID: 31429513.

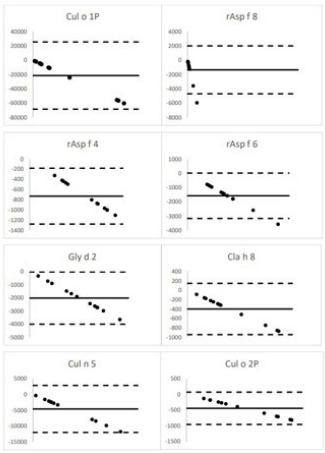
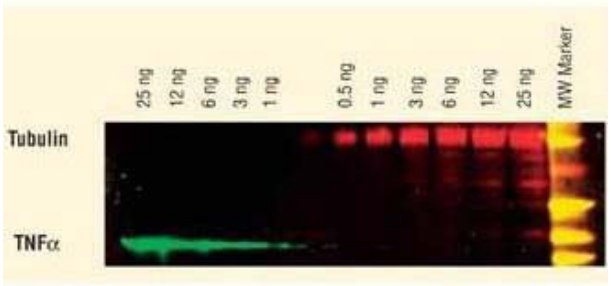


Figure
Bland Altman plots to compare ELISA and microarray IgE with specific proteins. The acceptable level of bias is dictated by the solid line. The dashed lines represent the 95% limits of agreement as the mean difference (2 SD). Variable influences on the projection scores significant for class prediction from the environmentally mixed group of horses (n=138) after VIP selection. Sup Fig 1. PMID: 31645629.

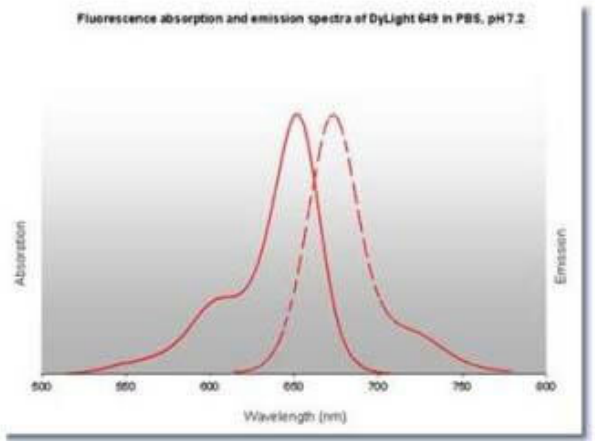
Diagram
Properties of DyLight™ Conjugates.

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

- White SJ et al. Microarray molecular mapping of horses with severe asthma. *J Vet Intern Med.* (2024)
- Wyler M et al. Protein microarray allergen profiling in bronchoalveolar lavage fluid and serum of horses with asthma. *J Vet Intern Med.* (2023)
- Birras J et al. First clinical expression of equine insect bite hypersensitivity is associated with co-sensitization to multiple Culicoides allergens. *PLoS One.* (2021)
- Novotny EN et al. Component-resolved microarray analysis of IgE sensitization profiles to Culicoides recombinant allergens in horses with insect bite hypersensitivity. *Allergy.* (2021)
- White S et al. Development of a comprehensive protein microarray for immunoglobulin E profiling in horses with severe asthma. *J Vet Intern Med.* (2019)
- White SJ et al. Antigen array for serological diagnosis and novel allergen identification in severe equine asthma. *Sci Rep.* (2019)

Disclaimer

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