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Colloidal Gold Conjugates

Quick Facts

Storage upon receipt:

- 2–6°C
- Do not freeze
- Protect from light

Ex/Em: 495/519 nm

Introduction

Molecular Probes offers Alexa Fluor® 488 dye–labeled colloidal gold conjugates. These conjugates consist of affinity-purified goat anti–mouse IgG or goat anti–rabbit IgG antibodies, or streptavidin, labeled with our Alexa Fluor 488 dye and adsorbed to 5 nm or 10 nm gold colloids (Table 1). The colloidal gold conjugates may be used as probes in immunoblotting, light microscopy, fluorescence microscopy or electron microscopy. Immunolabeled samples may also be further developed using silver-enhancement methods. As a separate product, we offer the LI Silver (LIS) Enhancement Kit (L-24919), which is prepared for Molecular Probes by Nanoprobes, Inc.

Combining fluorescent secondary detection reagents into colloidal gold to form functional complexes is difficult because the fluorescence of fluorophores, such as fluorescein, is significantly quenched by proximity to the colloidal gold.[1] Molecular Probes makes fluorescent colloidal gold complexes with our Alexa Fluor 488 dye, a dye which has superior brightness and photostability. These Alexa Fluor 488 anti-IgG– or streptavidin–colloidal gold complexes may be used to perform correlated immunofluorescence and electron microscopy in a two-step labeling procedure, rather than in the three-step indirect labeling, required with conventional nonfluorescent anti-IgG– or streptavidin–colloidal gold complexes.[2]

Materials

Contents

The Alexa Fluor 488 dye–labeled colloidal gold conjugates are supplied in unit sizes of 0.5 mL as suspensions at ~30 µg of protein per mL in 10 mM Tris-HCl, pH 7.5, containing 0.1% BSA and 5 mM sodium azide.

Storage

Upon receipt, store the Alexa Fluor 488 dye–labeled colloidal gold conjugates at 2–6°C, undiluted and protected from light. DO NOT FREEZE. The products should be stable for at least 3 months.

Application

The Alexa Fluor 488 conjugates have a fluorescence excitation and emission maxima of approximately 495 nm and 519 nm, respectively. Because staining protocols vary with application, the appropriate dilution of the colloidal gold conjugates should be determined empirically. The supplied suspensions at ~30 µg/mL should be at a useful working concentration for most immunohistochemical applications.

It may be a good practice to centrifuge the protein conjugate solution before use in a microcentrifuge for 30 minutes and remove the supernantant. The soft pellet, containing the colliodal gold-adsorbed protein conjugate, is resuspended in buffer and added to the experiment. These steps will reduce the presence of fluorescently-labeled protein that may have dissociated from the colloid gold particles during storage. For some applications, the presence of the mixed conjugates may provide the additional fluorescence labeling, and therefore the product should simply be mixed well before use.

Table 1. Molecular Probes' Alexa Fluor 488 colloidal gold conjugates.*

Cat #	Conjugate type	Colloidal gold size
A-31560	goat anti–mouse IgG	5 nm
A-31561	goat anti–mouse IgG	10 nm
A-31565	goat anti–rabbit IgG	5 nm
A-31566	goat anti–rabbit IgG	10 nm
A-32360	streptavidin	5 nm
A-32361	streptavidin	10 nm

* Colloidal gold conjugates with different Alexa Fluor dyes or with different colloidal gold sizes are available through our Custom and Bulk Sales Department, e-mail: custom@probes.com.

References

1. *Colloidal Gold: Principles, Methods and Applications*, volume 1, M. A. Hayat, Ed., Academic Press Inc. (1989) pp. 336–337; **2.** Proc Natl Acad Sci USA 82, 109 (1985).

Product List *Current prices may be obtained from our Web site or from our Customer Service Department.*

Cat #	Product Name	Unit Size
A-31560	Alexa Fluor® 488 goat anti-mouse IgG, 5 nm colloidal gold conjugate *30 µg protein/mL*	0.5 mL
A-31561	Alexa Fluor® 488 goat anti-mouse IgG, 10 nm colloidal gold conjugate *30 µg protein/mL*	0.5 mL
A-31565	Alexa Fluor® 488 goat anti-rabbit IgG, 5 nm colloidal gold conjugate *30 µg protein/mL*	0.5 mL
A-31566	Alexa Fluor® 488 goat anti-rabbit IgG, 10 nm colloidal gold conjugate *30 µg protein/mL*	0.5 mL
A-32360	Alexa Fluor® 488 streptavidin, 5 nm colloidal gold conjugate *30 µg protein/mL*	0.5 mL
A-32361	Alexa Fluor® 488 streptavidin, 10 nm colloidal gold conjugate *30 µg protein/mL*	0.5 mL
L-24919	LI Silver (LIS) Enhancement Kit	1 kit

Contact Information

Further information on Molecular Probes' products, including product bibliographies, is available from your local distributor or directly from Molecular Probes. Customers in Europe, Africa and the Middle East should contact our office in Leiden, the Netherlands. All others should contact our Technical Assistance Department in Eugene, Oregon.

Please visit our Web site — **www.probes.com** — for the most up-to-date information.

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