



DATASHEET

Fluorescent Antibody Kit Atto740

gam IgG (H+L) Atto740

Goat-anti mouse IgG (H+L) Atto740

For Laboratory Use Only.

Not for Use in Diagnostic Processes.

Kit Content (Cat. #: 2111-1MG)

1.0mg gam IgG (H+L) Atto740
50µg mono-anti actin
Product documentation & Certificate of Analysis

Product Documentation

Goat anti-mouse IgG (H+L) Atto740

Goat anti-mouse IgG (H+L) is an antigen-specific antibody. Affinity purification removed essentially all goat serum proteins, including immunoglobulins not specifically binding to mouse IgG. Goat anti-mouse IgG is conjugated to Atto740 NHS (Abs.max. 740 nm; Em.max. 764 nm) and further purified by gel filtration.

Goat anti-mouse IgG (H+L) Atto740 is supplied in unit sizes of 1.0mg.

In solution: 0.5ml (2mg/ml) in 0.01M sodium phosphate, 0.1M NaCl, pH 7.4, 5mM NaN₃ in 50% glycerol (fluorescence free).

Reconstitution of Antibodies with Glycerol-PBS (for freeze-dried products only)

Add 0.5ml Glycerol-PBS to the freeze-dried secondary antibody to reconstitute a 2mg/ml stock solution. Vortex for 10sec until completely dissolved. Add 50µl Glycerol-PBS to the freeze-dried primary antibody to reconstitute a 1mg/ml stock solution. Final concentrations of the antibody buffers: 0.01M sodium phosphate, 0.1M NaCl, pH 7.4, 5mM NaN₃ in 50% glycerol.

Working Dilution

Each individual user should determine the optimum working dilution empirically for the systems. Dilutions of 1:300 – 1:1500 are suitable for many applications.

Determining the Degree of Labeling (DOL)

1. Protein Concentration

Determination of the protein concentration by UV absorption measurement at 280nm (ϵ_{\max} =203,000 M⁻¹cm⁻¹).

DATASHEET

Fluorescent Antibody Kit Atto740

2. Degree of Labelling

The degree of labeling (DOL or dye/protein ratio) is usually determined by absorption spectroscopy making use of the Lambert-Beer law: Absorbance (A) = extinction coefficient (ϵ) \times molar concentration \times path length (d). Simply measure the UV-VIS spectrum of the conjugate in solution in a quartz cuvette. Dilute the solution, if necessary to measure within the linear range.

$$\text{DOL} = \frac{A_{740} \cdot 203,000}{A_{280} - (A_{740} \cdot 0.1) \cdot 120,000}$$

A_{740} = maximal absorbance at 740nm measured in a cuvette with a pathlength of 1 cm.

A_{280} = maximal absorbance at 280nm measured in a cuvette with a pathlength of 1 cm.

203,000 = molar extinction coefficient (ϵ) at the longest-wavelength absorption maximum ($\text{M}^{-1}\text{cm}^{-1}$).

120,000 = molar extinction coefficient (ϵ) at the longest-wavelength absorption maximum ($\text{M}^{-1}\text{cm}^{-1}$).

0.1 = correction factor for the fluorophore's absorbance at 280nm.

Storage and Stability

For continuous use, store at 2-8 °C for up to three months. For extended storage, the solution may be frozen in working aliquots at -20 °C. Frozen aliquots are stable for at least six months. Avoid repeated freeze/thawing. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Protect fluorescent conjugates from light.

Mono-anti actin

Monoclonal anti actin (98% purity) recognizes skeletal and non-muscle actin isoforms. Although isotype-classified as IgM, it reacts even to stronger with goat-anti mouse IgG. In immunofluorescence microscopy samples are fixed with methanol to detect cytoplasmic actin, while fixation with para-formaldehyde leads to nuclear actin detection (Gonsior et al., 1999).

As immunogen for mono-anti actin a profilin-actin complex from calf thymus was used, and epitope mapping localized the following sequence (Gonsior et al.):

NVPAMYVAVLDSGVTHNVPIYHAIMRLDLA.

Mono-anti actin was tested on PtK2, SR-NRK, NRK-49F, L6 cells, C2C12, NIH-3T3, mouse myoblast and myotube cells.

The antibody is supplied in unit sizes of 50 μ g, either in solution or freeze dried. In solution: 50 μ l (1mg/ml) in 0.1M sodium phosphate, 0.1M NaCl, pH 7.4, 5mM NaN₃ in 50% glycerol (fluorescence free).

Freeze dried products are reconstituted with 50 μ l glycerol buffer provided with the kit.

Fluorescent Antibody Kit
Atto740

Mono-anti actin

Working Dilution

Each individual user should determine the optimum working dilution empirically for the systems. Dilutions of 1:100 – 1:300 with respect to the above mentioned fixation methods are sufficient for many applications.


Storage and Stability

For continuous use, store at 2-8 °C for up to three months. For extended storage, the solution may be frozen in working aliquots at –20 °C. Frozen aliquots are stable for at least six months. Avoid repeated freeze/thawing. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Reference:

Gonsior SM, et al.: Conformational difference between nuclear and cytoplasmic actin as detected by a monoclonal antibody. J Cell Sci 112, 797-809 (1999)

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