

DATASHEET

Fluorescent Antibody Kit ATTO490LS

Anti-Rabbit IgG (H+L) Atto490LS

Goat Anti-Rabbit IgG (H+L) Atto490LS

For Laboratory Use Only.
Not for Use in Diagnostic Processes.

Kit Content (Cat. #: 2309-1MG)

1.0mg Anti-Rabbit IgG (H+L) Atto490LS
1.0ml Glycerol-PBS
20µg Mono-Anti Actin
Product documentation

Product Documentation

Anti-Rabbit IgG (H+L) Atto490LS

Anti-Rabbit IgG (H+L) is an antigen-specific antibody. Affinity purification removed essentially all goat serum proteins, including immunoglobulins not specifically binding to rabbit IgG. Anti-Rabbit IgG is conjugated to Atto490LS NHS (Abs.max. 496 nm; Em.max. 661 nm) and was further purified by gel filtration. After conjugation the DOL = 3.8 and the dye carries a net charge of -1.

Goat Anti-Rabbit IgG (H+L) Atto490LS is supplied in unit sizes of 1.0mg.

Reconstitution of Antibodies with Glycerol-PBS

Add 0.5ml Glycerol-PBS to the lyophilized antibody to reconstitute a 2mg/ml stock solution. Vortex for 10sec until completely dissolved. Add 20µl Glycerol-PBS to the lyophilized 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 1:500 – 1:1500 are sufficient for many applications.

Determining the Degree of Labeling (DOL)

1. Protein Concentration

Determination of the protein concentration by UV absorption measurement at 280nm ($\epsilon_{\text{max}} = 203,000 \text{ M}^{-1}\text{cm}^{-1}$).

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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.

$$\text{DOL} = \frac{A_{496} \cdot 203,000}{A_{280} - (A_{496} \cdot 0.18) \cdot 40,000}$$

A_{644} = maximal absorbance at 644nm 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 ($\text{M}^{-1}\text{cm}^{-1}$).

40,000 = molar extinction coefficient (ϵ) at the longest-wavelength absorption maximum ($\text{M}^{-1}\text{cm}^{-1}$).

0.18 = 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 profiling-actin complex from calf thymus was used, and the epitope is located within the following sequences (Gonsior et al.):

AMYVAIQAV (aa131-139), VLDSGVTHNVPIYEGY (aa155-169) MRLDLAGRDLTD (aa178-187).

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

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.

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Mono-Anti Actin

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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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