

## DATASHEET

---

### Fluorescent Antibody Kit Atto488

#### **gar IgG (H+L) Atto488**

Goat-anti rabbit IgG (H+L) Atto488

Cat.#: 2302-1MG

For Laboratory Use Only.

Not for Use in Diagnostic Processes.

#### **Kit Content (Cat. #: 2302-1MG)**

1.0mg gar IgG (H+L) Atto488

50µg mono-anti actin

Product documentation & Certificate of Analysis

#### Product Documentation

##### **Goat anti-rabbit IgG (H+L) Atto488**

Goat 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. Goat anti-rabbit IgG is conjugated to Atto488 NHS (Abs.max. 501 nm; Em.max. 523 nm) and further purified by gel filtration.

Goat anti-rabbit IgG (H+L) Atto488 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, 10mM NaN<sub>3</sub> in 50% glycerol (fluorescence free).

Freeze dried products are reconstituted with 0.5ml glycerol buffer provided with the kit.

#### Working Dilution

Each individual user should determine the optimum working dilution empirically for the systems. Dilutions of 1:300 – 1:1000 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 (  $\epsilon_{\max}$  =203,000 M<sup>-1</sup>cm<sup>-1</sup>).

## DATASHEET

### Fluorescent Antibody Kit Atto488

#### 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 ( $\epsilon$ )  $\times$  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.

$$\text{DOL} = \frac{A_{501} \cdot 203,000}{A_{280} - (A_{501} \cdot 0.1) \cdot 90,000}$$

$A_{501}$  = maximal absorbance at 501nm 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 ( $\epsilon$ ) at the longest-wavelength absorption maximum ( $\text{M}^{-1}\text{cm}^{-1}$ ).

90,000 = molar extinction coefficient ( $\epsilon$ ) 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 profiling-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, rabbit myoblast and myotube cells.

The antibody is supplied in unit sizes of 50 $\mu\text{g}$ , either in solution or freeze dried. In solution: 50 $\mu\text{l}$  (1mg/ml) in 0.1M sodium phosphate, 0.1M NaCl, pH 7.4, 5mM  $\text{NaN}_3$  in 50% glycerol (fluorescence free).

Freeze dried products are reconstituted with 50 $\mu\text{l}$  glycerol buffer provided with the kit.

## DATASHEET

---

### Fluorescent Antibody Kit Atto488

#### 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)

HYPERMOL EK WARRANTS THAT ITS PRODUCT ARE CONFORM TO THE INFORMATION CONTAINED IN THIS PUBLICATION. THE PURCHASERS MUST DETERMINE THE SUITABILITY OF THE PRODUCT(S) FOR THEIR PARTICULAR USE. ADDITIONAL TERMS AND CONDITIONS MAY APPLY (SEE REVERSE SIDE OF THE INVOICE). HYPERMOL BRANDS ARE SOLD EXCLUSIVELY BY HYPERMOL EK, GERMANY AND AUTHORIZED DISTRIBUTORS.

3 OF 3

*For product inquiries please contact:*

cusserv@hypermol.com  
Fon: +49 (0)521 9876228  
Fax: +49 (0)521 9876231  
www.hypermol.com