

## DATASHEET

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### Fluorescent Antibody Kit Atto565

#### **gam IgG (H+L) Atto565**

Goat-anti mouse IgG (H+L) Atto565

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

#### **Kit Content (Cat. #: 2107-1MG)**

1.0mg gam IgG (H+L) Atto565  
50µg mono-anti actin  
Product documentation & Certificate of Analysis

#### Product Documentation

##### Goat anti-mouse IgG (H+L) Atto565

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 Atto565 (Abs.max. 563 nm; Em.max. 592 nm) and further purified by gel filtration.

Goat anti-mouse IgG (H+L) Atto565 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 NaN<sub>3</sub> 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 NaN<sub>3</sub> 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 (  $\epsilon_{\max} = 203,000 \text{ M}^{-1}\text{cm}^{-1}$  ).

## DATASHEET

### Fluorescent Antibody Kit Atto565

#### 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.

$$\text{DOL} = \frac{A_{563} \cdot 203,000}{A_{280} - (A_{563} \cdot 0.26) \cdot 115,000}$$

$A_{563}$  = maximal absorbance at 563nm 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 ( $\text{M}^{-1}\text{cm}^{-1}$ ).

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

0.16 = 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. Isotype classified as an IgM, it reacts even 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 $\mu\text{g}$ , 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 Atto565

#### 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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3 OF 3

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