

# PN IM3325 Streptavidin-PE

100 tests  
10  $\mu$ L / test



**IO Test**<sup>®</sup>  
Conjugated Antibodies

For Research Use Only. Not For Use In Diagnostic Procedures.

## SPECIFICITY

Streptavidin is a 60 kDa tetramer produced by *Streptomyces avidinii*. Streptavidin is not glycosylated and its isoelectric point is situated between 5.5 and 6.5 (1). These properties make streptavidin different from avidin, which is glycosylated and has a high isoelectric point (1); Unlike avidin, streptavidin does not stick unspecifically to cells and tissues (2, 3).

Streptavidin is known to bind biotin (4 molecules of biotin per molecule of streptavidin) (1), giving rise to one of the strongest non-covalent bonds ( $K_d = 10^{-13}$  M) (4).

Biotin is a small molecule of 244 Da which can be covalently coupled to proteins, including monoclonal antibodies (mAbs). With this fluorochrome-conjugated streptavidin reagent, one takes advantage of the strength and specificity of the biotin-streptavidin bond to allow the linkage of a variety of biotinylated mAbs to that fluorochrome (2).

## REAGENT

**Conjugation** R-phycoerythrin (PE) is conjugated at 0.5-1.5 moles of PE per mole of streptavidin.

Excitation wavelength: 488 nm

Maximum emission wavelength: 575 nm

Main emission color: Orange-red

**Buffer** 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

## APPLICATION

Indirect immunofluorescence, for microscopy or flow cytometry (2).

## STATEMENT OF WARNINGS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.

3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.

## STORAGE CONDITIONS AND STABILITY

Each reagent is stable up to the expiration date when stored at 2 - 8°C. Do not freeze. Minimize exposure to light.

## REAGENT PREPARATION

No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 20 - 25°C prior to use.

## PROCEDURE

Cells to be labelled should be incubated with a biotinylated antibody, under conditions established by the laboratory or by the manufacturer of the biotinylated reagent. The unbound biotinylated material should be washed off prior to incubating the sample with the fluorochrome-conjugated streptavidin.

For 100  $\mu$ L whole blood, or  $10^8$  cells, 10  $\mu$ L of the conjugate should be incubated for 15 minutes at 18 - 25°C in the dark.

Then the labelled sample should be processed according to the current procedure in use in the laboratory.

## SELECTED RESEARCH REFERENCES

1. [5128] Chalet, L., Wolf, F.J., "The properties of streptavidin, a biotin-binding protein produced by streptomycetes", 1964, Arch. Biochem. Biophys., 106, 1-5.
2. [5132] Coggi, G., Dell'Orto, P., Viale, G., "Avidin-biotin methods", 1986, Immunocytochemistry, 54-70.
3. [3867] Larsson, L.-I., "Immunocytochemical detection systems", Immunocytochemistry: Theory and practice, 1989, CRC Press, 77-145.
4. [5129] Green, N.M., "Avidin", 1975, Adv. Protein. Chem., 29, 85-133.

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