3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Monoclonal Anti-Biotin, clone BN-34
produced in mouse, ascites fluid

Catalog Number **B7653**

Product Description

Monoclonal Anti-Biotin (mouse IgG1 isotype) is derived from the BN-34 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with biotinylated KLH. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Biotin recognizes the free biotin molecule and biotin conjugated to various immunoglobulins in ELISA and immunohistochemical techniques. Specificity was verified by using biotinylated goat antibodies reactive against human and rabbit antigens coated on microtiter plates.

Monoclonal Anti-Biotin may be used in a wide range of applications including blotting (Western, Southern and Dot Blots), immunocytochemistry, in-situ nucleic acids hybridization, ELISA, fluorescent activated cell-sorting (FACS) and electron microscopy.

Biotin is an essential vitamin required by cells in living organisms or in culture. The high binding affinity to egg white or bacteria-derived avidin has been exploited in the design of immunoassays and immunohistologic staining techniques.[1] The most popular procedure involves localization of the antigen with a primary antibody, addition of a biotinylated antibody to bind to the primary antibody, application of a complex of avidin and biotinylated enzyme (usually horseradish peroxidase) and finally, reaction with a chromogenic substrate.[2,3] While standard assay methods using the avidin-biotin-enzyme complex will suffice for most studies, there are occasions when enhanced sensitivity is needed to detect smaller amounts of antigen or localize low density antigens in histologic sections. Conventional immunoassay methods are improved by the use of Monoclonal Anti-Biotin[4], which enhances the sensitivity of avidin-biotin immunoassays by bridging a second layer of avidin-biotin-enzyme complex.[3] This antibody can be used in many other applications where biotin can be introduced as a target label. For instance, it has been used in detection of low copy human papilloma virus DNA and mRNA in routine paraffin sections of cervix by sensitive non-isotopic *in-situ* hybridization.[5] It has also been used successfully for the detection of microinjected biotin-haptenized cytoskeletal proteins to examine directly the pattern of incorporation and turnover of cytoskeletal proteins in living cells.[6]

Reagent

Supplied as ascites fluid with 15 mM sodium azide as a preservative.

Precautions

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Indirect ELISA: a minimum antibody titer of 1:4000 was determined using rabbit igG coated on polystyrene microtiter plates (10 μg/ml coat).and biotinylated goat anti-rabbit IgG .

Note: In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilution by titration assay.

References

1. Wilchek, M., and Bayer, E., *Immunol. Today*, **5**, 39 (1984).
2. Guerin-Reverchon, I., et al., *J. Immunol. Meth*., **123**, 167 (1989).
3. Allan, G., et al., *J. Virol. Meth*., **24**, 181 (1989).
4. Dakshinamurti, K., et al.,*Biochem.J*.,**237**,477 (1986).

5. Burns, J., et al., *J. Clin.Pathol*.,**40**, 858 (1987).

6. Okabe, S. and Hirokawa, N., *PNAS (USA),* **86**, 4127 (1989).

DS,KAA,PHC 10/12-1