3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

MONOCLONAL ANTI-b-COP
Clone maD
Mouse Ascites Fluid

Product Number **G 6160**

Product Description

Monoclonal Anti-β-COP (mouse IgG1 isotype) is derived from the maD hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. Synthetic peptide D1 of β-COP (amino acids 701-715) conjugated to KLH was used as the immunogen.[1] The isotype is determined using ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

The Golgi apparatus is the central structure within the cell through which newly synthesized secretory vesicles and membrane proteins pass, become modified, and are sorted en route to their final destination inside or outside of the cell.[3-5] It consists of an interconnected, branched network of membrane-bounded stacks and tubules, and is divided into several structurally and functionally distinct regions through which proteins successively pass.[6] At least two major classes of vesicles associated with Golgi transport are distinguished by unique sets of coat proteins (COPs).[7] The coats of these vesicles consist of the heavy and light chains of clathrin in addition to adaptor complexes comprised of the 100 kDa, α-, β-, and γ-adaptins and another class of non-clathrin coated vesicles. COP coated vesicles are involved in membrane traffic between the rough ER and the Golgi complex.[2,8] Coatomer has an apparent molecular weight of 550 kDa,[10] and it is composed of α-, β-, β'-, γ-, δ-, ε-, and ζ-COP.[3,9] Best characterized is the 110 kDa β-COP component, which has homology in primary structure to the β-adaptin component of clathrin-coated vesicles.[10] A monoclonal antibody reacting specifically with β-COP, together with other antibodies to Golgi proteins (e.g., the Golgi 58 K protein), is a useful tool for studies on the role and relationships of this protein in the cell.

Reagents

The product is provided as ascites fluid containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

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

Product Profile

Monoclonal Anti-β-COP recognizes an epitope in the β-COP protein (110 kDa).[1] The antibody stains the periphery of the Golgi complex in immunohistology using cultured cells.[1,2] Optimal immunofluorescent staining with the antibody is obtained using methanol/acetone or paraformaldehyde[1] fixation, followed by a permeabilization step (0.1% TRITON™ X-100 and 0.05% SDS, or 4 IU/ml streptolysin O[1]). Strong immunofluorescent staining is confined mainly to the central perinuclear area in the cell. At higher magnification, this staining appears to be composed of dots. The product may be used in the detection and localization of β-COP by immunohistology[1,2] or immunoblotting[1] and for microinjection into cells.[1] It cross-reacts with a variety of species, including human, monkey,[1,2] rat,[1] and hamster.

In order to obtain best results, it is recommended that each user determine the optimal working dilution for individual applications by titration assay.

References

1. Pepperkok, R., et al., Cell, **74**, 71 (1993).
2. Griffiths, G., et al., J. Cell Sci., **108**, 2839 (1995).
3. Kreis, T., et al., Annu. Rev. Cell Dev. Biol., **11**, 677 (1995).
4. Allan, V., and Kreis. T., J. Cell Biol., **103**, 2229 (1986).
5. Donaldson, J., et al., J. Cell Biol., **111**, 2295 (1990).
6. Ktistakis, N., et al., J. Cell Biol., **113**, 1009 (1991).
7. Narula, N., et al., J. Cell Biol., **117**, 27 (1992).
8. Oprins, A., et al., J. Cell Biol., **121**, 49 (1993).
9. Whitney, J., et al., Cell, **83**, 703 (1995).
10. Duden, R., et al., Cell, **64**, 649 (1991).

MAM/KMR 03/02