Product Information

Anti-Bacterial Alkaline Phosphatase (BAP, PhoA) antibody, Mouse monoclonal

Clone BAP-77, purified from hybridoma cell culture

SAB4200860

Product Description

Monoclonal Anti-BAP antibody (mouse IgG1 isotype) is derived from the BAP-77 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with bacterial alkaline phosphatase (BAP) tagged fusion protein (GeneID: 945041). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO-2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-BAP antibody specifically recognizes BAP-tagged fusion protein. The antibody may be used for Immunoblotting (~ 50 kDa).

Recombinant DNA technology enables the insertion of specific short sequences into genes of interest. This can provide an 'affinity handles' (tags) for the selective identification and purification of the recombinant protein.[1-3] The addition of BAP tag to a given gene, creates stable fusion product that does not appear to interfere with the bioactivity of the protein, or with the biodistribution of the BAP tagged product. BAP (also known as PhoA, EC 3.1.3.1) is a ~ 50 kDa protein, derived from *E. coli*.

Alkaline phosphatase appears to require export to the periplasm for its enzymatic activity.[4] Fusions of the secreted alkaline phosphatase to an integral cytoplasmic membrane protein of *E. coli* shows different activities depending on where is it fused with the membrane protein.[5] Fusions to positions in or near the periplasmic (extracellular) domain lead to high alkaline phosphatase activity, whereas those located to positions in the cytoplasmic domain reside in low activity. Consequently, analysis of alkaline phosphatase fusions to membrane proteins of unknown structure are generally useful in determining their membrane topologies.[4] Expression of enzymatically active protein fusions in *E. coli* could facilitate the analysis of proteins and even replace some reagents frequently used in immunology such as chemically-produced antibody-enzyme conugates.[6,7]

Monoclonal antibody reacting specifically with BAP may be useful in various immunotechniques, to identify the expression of BAP fusion protein in situ or by immunoblotting, in bacteria, bacterial lysates, and cells or tissues transfected with BAP fusion protein expressing vectors. In addition, expression system that exploits the BAP signal sequence in order to translocate a target protein to the periplasm, may be used to evaluate how changes in the composition and sequence of amino acids near the BAP-target protein junction influence the periplasmic accumulation of the target recombinant protein.[8]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for research use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards 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 are not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.1-0.2 µg/mL is recommended using ALP from *E. coli*.

Note: In order to obtain best results in different techniques and preparations it is recommended to determine optimal working concentration by titration test.

References

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