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Product Information

Anti-Proteus mirabilis LPS antibody
Mouse monoclonal, Clone PMIR174
purified from hybridoma cell culture

Product Number **SAB4200851**

Product Description

Monoclonal Anti-Proteus mirabilis LPS (mouse IgG2b isotype) is derived from the PMIR174 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with *Proteus mirabilis* LPS as immunogen. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Product Number ISO2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Proteus mirabilis LPS specifically recognizes *P. mirabilis* whole extract and *P. mirabilis* LPS, the antibody has no cross reactivity with *P. vulgaris* LPS nor with whole bacterial extracts of *P. vulgaris, P. gingivalis, E. coli K-12, P. aeruginosa, S. flexneri, S. enterica, E. faecalis,* and *B. subtilis*. The antibody may be used in various immunochemical techniques including immunoblotting and ELISA. Detection of the *P. mirabilis* LPS bands by immunoblotting is specifically inhibited by the immunogen.

Proteus mirabilis, a Gram-negative rod-shaped bacterium, belongs to the Enterobacteriaceae family. Member of the *Proteus* genus (*Proteus* spp.), which also includes *Proteus mirabilis*, *Proteus penneri, and Proteus hauseri*, originally characterize by their ability to swarm on solid surfaces, are widespread in the environment and the gastrointestinal tract of human and animals and known to be an opportunistic pathogens isolated from urine, wounds, and other clinical sources. The *Proteus* spp. bacteria, are distinguished by their reactions for indole production, salicin fermentation, and aesculin hydrolysis.[1-3] *P. vulgaris* produces indole, which differentiates it from the indole-negative *P. mirabilis* and *P. penneri*.[1-3]

Proteus spp. bacteria may also be found in soil or water habitats where they often regarded as indicators of fecal pollution and a contamination threat for potential water or seafood poisoning.[1]

In the *Proteus* spp. group, *P. mirabilis* is encountered in the community and causes the majority of urinary tract *Proteus* spp. infections, whereas *P. vulg*aris and *P. penneri* are less common and mainly associated with nosocomial none urinary infections.[2,4]

P. mirabilis has a number of putative virulence factors including urease, haemolysin, fimbriae structure, and iron uptake which has been suggested to contribute to host cell invasion, cytotoxicity, ability to invade uroepithelial cells, and agglutinate red blood cells. [4] *P. vulgaris*, *P. mirabilis,* and *P. penneri* harbor resistance to β-lactam antibiotics as it is capable of producing inducible β-lactamases that hydrolyze primary and extended-spectrum penicillins and cephalosporins.[5-7]

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

For R&D 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 is 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 0.25-0.5 μg/mL is recommended using *Proteus mirabilis* whole bacteria lysate.

Indirect ELISA: a working concentration of 0.25-0.5 μg/mL is recommended using *Proteus mirabilis* LPS for coating.

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

References

1. Drzewiecka, D., *Microb. Ecol.*, **72**, 741-758 (2016).
2. O'Hara, C.M., et al., *Int. J. Syst. Evol. Microbiol.*, **50**, 1869-75 (2000).
3. O'Hara, C.M., et al., *Clin. Microbiol. Rev.*, **13**, 534-46 (2000).
4. Schaffer, J.N., and Pearson M.M., *Microbiol. Spectr.*, **3**, (2015).
5. Bahashwan, S.A., and Shafey, H.M., *Euro. Sci. J.*, **9**, 188-202 (2013).
6. Pal, N., et al., *Ann. Med. Health Sci. Res.*, **6**, 267-73 (2016).
7. Nagano, N., et al., *J. Clin. Microbiol.*, **41**, 5530-6 (2003).

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