Product Information

Anti-Pseudomonas Aeurginosa Antibody

Produced in Rabbit, IgG Fraction of Antiserum

SAB4200866

Product Description

Anti-Pseudomonas aeruginosa antibody is developed in rabbits using inactivated *P. aeruginosa* bacteria (ATCC 15692). Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-*P. aeruginosa* antibody recognizes *P. aeruginosa* whole dead bacteria and lysate, the antibody has no cross reactivity with whole dead bacteria or lysate of *Proteus mirabilis, Porphyromonas gingivalis, E. coli, Shigella flexneri, Enterococcus faecalis, Akkermansia muciniphila* or *Salmonella enterica*. The antibody may be used in various immunochemical techniques including Immunoblotting and ELISA. Detection of the *P. aeruginosa* bands by Immunoblotting is specifically inhibited by the immunogen.

Pseudomonas aeruginosa is a rod shaped, Gram negative, monoflagellated, aerobic to facultative anaerobe bacteria which commonly inhabits soil and aqueous environments.[1,2] *P.aeruginosa* is considered an opportunistic human pathogen mainly causing disease in immunocompromised patients. It is especially fatal in cystic fibrosis (CF) patients, but also presents a major problem in chronic wounds, burn wounds and infection of implanted biomaterials such as catheters.[3]

P. aeruginosa is a major cause of nosocomial infections which affect more than 2 million patients every year and are accounted for around 90,000 deaths annually.[3] It forms highly resistant biofilms on human tissues such as the lungs of CF patients or medical surfaces. Once *P. aeruginosa* infection is established it is extremely hard to eradicate.[3] The genome of *P. aeruginosa* encodes a vast arsenal of virulence factors. However, the *P. aeruginosa* isolated from chronic infections expresses less virulence factors in comparison to isolates from acute infections but more readily form biofilms.[1,4-6]

P. aeruginosa cells possess a single flagellum and type 4 pili that are important for adhesion to the host epithelial cells, motility and can also initiate an inflammatory response.[1] After adhesion, *P. aeruginosa* activates Type 3 secretion system (T3SS) and injects cytotoxins into the host cell.[1] Moreover, *P. aeruginosa* secretes several proteases, which can degrade host complement, mucins, and disrupt tight junctions[6-7]. In addition to lipases and phospholipases, that degrade lipids in host cell membranes[6], and expresses Lipopolysaccharide (LPS), that is involved in inflammatory response and antibiotic resistance[8]. Antibiotic resistance to many classes of antibiotics is a major challange in *P. aeruginosa* treatment. *P. aeruginosa* possesses several resistance mechanisms such as, low permeability of the outer membrane, expression of membrane efflux (Mex) pumps, and β-lactamase and AmpC that hydrolases β-lactam antibiotics such as, penicillin[9]. In addition, as a result of genetic transfer new resistant strains emerge constantly. Therefore, finding new prevention and treatment strategies for *P. aeruginosa* infection is of high importance.[1]

Reagent

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

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 dilution of 1:10,000-1:20,000 is recommended using *P. aeruginosa* lysate.

Indirect ELISA

A working dilution of 1:5000-1:10,000 is recommended using whole dead *P. aeruginosa* bacteria for coating.

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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