Production Information

Anti-Burkholderia Pyrrocinia

Antibody Produced in Rabbit, IgG Fraction of Antiserum

SAB4200869

Product Description

Anti-Burkholderia) pyrrocinia antibody is developed in rabbits using inactivated *B. pyrrocinia* bacteria (ATCC 15958). Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-Burkholderia pyrrocinia antibody recognizes *B. pyrrocinia* lysate and whole dead bacteria. The antibody may be used in various immunochemical techniques including immunoblotting. Detection of the Burkholderia pyrrocinia bands by Immunoblotting is specifically inhibited by the immunogen.

Burkholderia pyrrocinia (previously also known as *Burkholderia Pseudomonas)* belongs to the *Burkholderia cepacia* complex (Bcc). *Burkholderia cepacia* complex is a group of at least 20 Gram negative bacterial species that are widely distributed in the natural environment such as, soil and water.[1] These bacteria have unusually large genomes (7.5-8.5 Mb).[2] *B. cepacia* are opportunistic and nosocomial pathogens that affect mostly immunocompromised individuals such as cystic fibrosis (CF) patients and cause respiratory illness and chronic inflammation.[3] First, the bacterium initiates primary infection in the respiratory mucosa followed by spreading to adjacent organs and establishing the "cepacia syndrome."

Cepacia syndrome occurs in > 20% of CF patients that develop fever, acute pneumonia, and bacteremia.[4,5] *B. cepacia* expresses various virulence factors that damage the epithelial cells such as, type-3 secretion (T3SS) system that is involved in the disruption of actin filaments[6], flagellin for invasion into the epithelia[7,8], LPS and flagella that stimulate the proinflammatory response leading to severe lung damages, and also haemolysin, lipase, and gelatinase.[9,10]

B. cepacia has the ability to survive intracellularly in alveolar phagocytes and respiratory epithelial cells.[8] Moreover, *B. cepacia* produces quorum sensing (QS) molecules that control virulence factor expression and biofilm formation that shields the bacteria from immune response and antibiotic treatment.[1] Bcc are resistant to various types of antibiotics such as, quinolones, aminoglycosides and β-lactams.[1] *Burkholderia pyrrocinia*, isolated from soil at 1963 in Japan, is a first bacterium producing antifungal antibiotic pyrrolnitrin. This isolate was originally reported as *Pseudomonas pyrrocinia* strain and later reclassified into the *Burkholderia* species.[11]

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 1:20,000-1:40,000 is recommended using *Burkholderia pyrrocinia* bacteria lysate.

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

References

1. Ganesh PS., et al., *Microbiol Immunol.*, **64**: 87-98 (2020).
2. Vandamme P. and Dawyndt P., *Syst Appl Microbiol.*, **34**: 87-95 (2011).
3. Gautam V., et al., *Indian J Med Microbiol.*, **29**: 4-12 (2011).
4. Hauser N. and Orsini J., *Case Rep Infect Dis.*, **2015**: 537627 (2015).
5. Isles A., et al., *J Pediatr.*, **104**: 206-10 (1984).
6. Sajjan US., et al., *Cell Microbiol.*, **8**: 1456-66 (2006).
7. Chuaygud T., et al., *Tran R Soc Trop Med Hyg.*, **102**: S140-4 (2008).
8. Burns JL., et al., *Infect Immun.*, **64**: 4054-9 (1996).
9. Huber B., et al., *Microbiology*, **147**: 2517-28 (2001).
10. Nelson JW., et al., *FEMS Immun Med Microbiol.*, **8**: 89-98 (1994).
11. Kwak Y. and Shin JH., *J Biotechnol.*, **10**: 3-4 (2015).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.