



## FACT SHEET

### *Burkholderia cepacia*

#### Description:

- *Burkholderia cepacia* (*B. cepacia*) also known as *B. cepacia* complex (BCC) is an aerobic Gram-negative bacillus found in various aquatic environments.
- It is named after the American microbiologist, William Burkholder, who described the organism in 1950 as the cause of onion rot. Cepacia comes from the Latin 'cepia', meaning onion.

#### Interesting Facts:

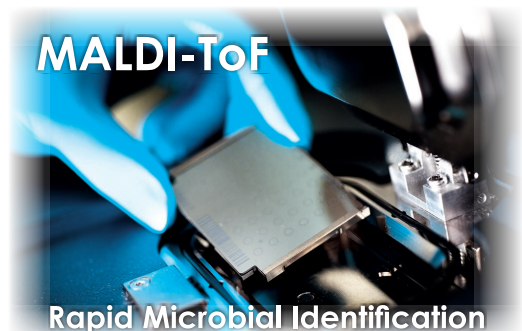
- *B. cepacia* was first known as *Pseudomonas cepacia*, but in 1990s taxonomists showed that this bacteria is sufficiently different from *Pseudomonas* to merit renaming.
- *B. cepacia* is one of the most adaptable of all bacteria and has the ability to survive in hostile environments, including those which have been disinfected.
- *B. cepacia* was first described in patients with cystic fibrosis in the late 1970s.
- The only way to diagnose *B. cepacia* is to culture the sputum and blood. A culture on selective agars will confirm if the bacteria is present and which strain(s) it is.

#### Infection:

- This bacteria rarely causes infection in healthy people, but infection can occur in immunocompromised patients.
- *B. cepacia* can be spread to susceptible people by person-to-person contact, contact with contaminated surfaces and exposure to *B. cepacia* in the environment. Transmission of *B. cepacia* from contaminated medicines and devices has also been reported.
- *B. cepacia* can be resistant to many common antibiotics. Treatment should be made on a case-by-case basis.
- The effects of *B. cepacia* vary from no symptoms at all to serious respiratory infections, especially in people affected by cystic fibrosis. It also been linked to nosocomial infections among intensive care unit patients and associated with exposure to sublingual probes.
- Cepacia syndrome is a very dangerous infection that can cause severe, life threatening complications.

#### In the Lab / at Wickham Laboratories Ltd

- Media such as *Pseudomonas* agar base (PAB) with an additional supplement is used to examine for the presence / absence of *B. cepacia*. Straw coloured colonies with brown pigmentation are indicated as a positive result. This is then confirmed using identification techniques such as MALDI-ToF (Matrix Assisted Laser Desorption Ionization-Time of Flight).
- *B. cepacia* selective agar (BCSA) can also be used to isolate this organism; this media was developed by Henry, Campbell, LiPuma and Speert for the selective isolation of *B. cepacia*.
- Although it is not technically classed as an objectionable organism that must be tested for under pharmacopoeial guidelines, *B. cepacia* contamination has been associated with approximately one third of product recalls related to microbiological contamination in non-sterile products. Therefore, it must be considered if the presence of this microorganism in the product would cause harm to the patient.
- It is important not to just look at the final product but also at potential sources of *B. cepacia* contamination such as the water used in manufacturing facilities. Water systems used in these facilities should be regularly sanitised to prevent the formation of *B. cepacia* biofilms.



**MALDI-ToF**

**Rapid Microbial Identification**