

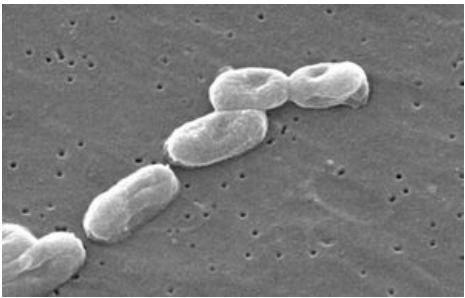
# Burkholderia

The genus *Burkholderia* belongs to the so-called gram-negative non-fermenting bacteria , it belongs to this group together with the genus *Burkholderia* genera showing similar characteristics as this genus, they are the genus *Pseudomonas* and the genus *Stenotrophomonas* . Due to their common characteristics and traits, these genera can be put into context, in the medical sense, these genera are important mainly in terms of nosocomial diseases .

## Taxonomy

The taxonomy of the genus *Burkholderia* is constantly renewed, the current classification is as follows:

- class Betaproteobacteria ,
- Order of the Burkholderiales ,
- family Burkholderiaceae ,
- genus *Burkholderia* ,
- The genus includes several species of bacteria, the most important of which include:
  - *Burkholderia cepacia* ,
  - *Burkholderia mallei* ,
  - *Burkholderia pseudomallei* .

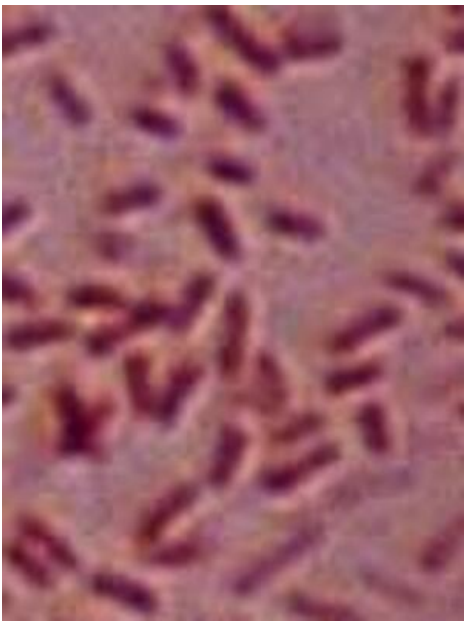


## Burkholderia cepacia

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<i>Burkholderia cepacia</i>	
<i>Burkholderiaceae</i>	
<i>Burkholderia</i>	
Burkholderia cepacia	
Morphology	G -
Cultivation	selective soils to exclude Pseudomonas aeruginosa colony growth, Burkholderia cepacia agar
Disease	nosocomial infections (especially of the respiratory tract, in patients with cystic fibrosis)
Diagnostics	cultivation of suitable biological material
Therapy	piperacillin, tazobactam , ceftazidime , carbapenems , fluoroquinolones
MeSH ID	D016956

*Burkholderia cepacia* is a bacterium originally parasitizing on garlic plants. It is currently gaining in importance as a causative agent of nosocomial infections . High resistance to hospital disinfectants such as Ajatin, Septonex or chlorhexidine makes it exceptional. The bacteria can bind atmospheric carbon dioxide and thanks to this property it can also multiply in distilled water. *B. cepacia* produces exo substances that damage macroorganisms.



It is especially dangerous for patients with artificial heart valves or vascular implants and for patients with cystic pulmonary fibrosis . Among other things, it contributes to infections of the urogenital tract of women caused by nosocomial transmission via a gel used for gynecological examination. Effective treatment has been demonstrated with piperacillin and its protected variants with tazobactam , as well as with ceftazidime , carbapenems or fluoroquinolones . Cultivation of *Burkholderia cepacia* is not demanding, but selective soils are used to exclude the growth of the *Pseudomonas aeruginosa* colony .

## Taxonomy

The taxonomy of the genus *Burkholderia* is constantly renewed, the current classification is as follows:

- class Betaproteobacteria
- order Burkholderiales
- family Burkholderiaceae
- genus *Burkholderia*

# Burkholderia mallei

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<i>Burkholderia mallei</i>	
<i>Burkholderiaceae</i>	
<i>Burkholderia</i>	
Colonies of <i>Burkholderia mallei</i> on blood agar	
<b>Morphology</b>	Good bar
<b>Relation to oxygen</b>	strictly aerobic
<b>Cultivation</b>	common cultivation soils
<b>Transmission</b>	direct contact with a sick animal, inhalation of contaminated dust or aerosol
<b>Incubation time</b>	1-14 days
<b>Disease</b>	fever (acute, chronic)
<b>Diagnostics</b>	cultivation (in case of clinical suspicion, notify the laboratory in advance), serological and skin tests
<b>Therapy</b>	acute: carbapenems, ceftazidime, co-trimoxazole, fluoroquinolones, doxycycline; chronic: up to several months administration
<b>MeSH ID</b>	D042726

*Burkholderia mallei* - microscopically *Burkholderia mallei* is an exception among other genera, it is a stationary gram-negative rod. It occurs mostly in the tropics and subtropics and can be brought to us from these areas. It causes a disease of solipeds called malleus . When transmitted to humans, it often has lethal consequences.

# Burkholderia pseudomallei

[🔗 edit embedded article]

<i>Burkholderia pseudomallei</i>	
<i>Burkholderiaceae</i>	
<i>Burkholderia</i>	
Colonies of Burkholderia pseudomallei on blood agar	
<b>Morphology</b>	Good bar
<b>Relation to oxygen</b>	strictly aerobic
<b>Cultivation</b>	common cultivation soils
<b>Virulence factors</b>	polysaccharide case
<b>Transmission</b>	inhalation of contaminated dust, skin abrasion, ingestion of contaminated water
<b>Occurrence</b>	saprophytically in soil and water
<b>Incubation time</b>	2 days to several months
<b>Disease</b>	melioidosis (acute, subacute, chronic)
<b>Diagnostics</b>	cultivation (blood culture, pus, tissue), serology, skin tests
<b>Therapy</b>	severe: piperacillin, tazobactam, carbapenems, ceftazidime; lighter forms: chloramphenicol, doxycycline, fluoroquinolones
<b>MeSH ID</b>	D016957

*Burkholderia pseudomallei* is atypical of our destination, occurring mainly in the tropics and subtropics of Southeast Asia, but also in northern Australia. This bacterium causes melioidosis or pseudomalleus in humans and animals. The course of the disease can be different, asymptomatic, chronic and acute. Untreated melioidosis is 95% fatal .

## Links

## Related articles

- Pseudomonas, Stenotrophomonas, Burkholderia
- Burkholderia cepacia
- Burkholderia mallei
- Burkholderia pseudomallei

## References

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## External links

- Burkholderia description
- Recent advances in the treatment of Pseudomonas aeruginosa infections in cystic fibrosis
- Recent advances in the treatment of Pseudomonas aeruginosa infections in cystic fibrosis
- The National Center for Biotechnology Information

Bacteria				
G +	coke	aerobic	<i>Micrococcus</i>	<i>Micrococcus luteus</i>
			<i>Rhodococcus</i>	<i>Rhodococcus equi</i>
			<i>Enterococcus</i>	<i>Enterococcus durans</i> • <i>Enterococcus faecalis</i> • <i>Enterococcus faecium</i>
			<i>Streptococcus</i>	<i>Streptococcus agalactiae</i> • <i>Streptococcus mutans</i> • <i>Streptococcus pneumoniae</i> • <i>Streptococcus pyogenes</i> • <i>Streptococcus suis</i> • <i>Oral streptococci</i>
G -	coke	facultatively anaerobic	<i>Staphylococcus</i>	<i>Staphylococcus aureus</i> • <i>Staphylococcus epidermidis</i> • <i>Staphylococcus intermedius</i> • <i>Staphylococcus saprophyticus</i>
			<i>Peptococcus</i>	<i>Peptococcus niger</i>
			<i>Peptostreptococcus</i>	<i>Peptostreptococcus anaerobius</i> • <i>Peptostreptococcus prevotii</i> • <i>Peptostreptococcus vaginalis</i>

sticks	aerobic + facultative anaerobic	<i>Arcanobacter</i>	<i>Arcanobacterium haemolyticum</i>
		<i>Bacillus</i>	<i>Bacillus anthracis</i> • <i>Bacillus cereus</i>
		<i>Corynebacterium</i>	<i>Corynebacterium diphtheriae</i> • <i>Corynebacterium jeikeium</i> • <i>Corynebacterium ulcerans</i> • <i>Corynebacterium urealyticum</i>
		<i>Erysipelothrix</i>	<i>Erysipelothrix rhusiopathiae</i>
		<i>Listeria</i>	<i>Listeria monocytogenes</i>
		<i>Nocardia</i>	<i>Nocardia asteroides</i> • <i>Nocardia brasiliensis</i>
		<i>Rhodococcus</i>	<i>Rhodococcus equi</i>
anaerobic		<i>Actinomyces</i>	<i>Actinomyces israeli</i> • <i>Actinomyces naeslundii</i>
		<i>Bifidobacterium</i>	<i>Bifidobacterium dentium</i>
		<i>Clostridium</i>	<i>Clostridium botulinum</i> • <i>Clostridium difficile</i> • <i>Clostridium novyi</i> • <i>Clostridium tetani</i> • <i>Clostridium perfringens</i> • <i>Clostridium septicum</i> • <i>Clostridium ulcerans</i>
		<i>Lactobacillus</i>	<i>Lactobacillus acidophilus</i>
		<i>Propionibacterium</i>	<i>Propionibacterium acnes</i> • <i>Propionibacterium propionicus</i>

coke	aerobic	<i>Acinetobacter</i>	<i>Acinetobacter calcoaceticus</i>
		<i>Moraxella</i>	<i>Moraxella catarrhalis</i> • <i>Moraxella lacunata</i>
		<i>Neisseria</i>	<i>Neisseria gonorrhoeae</i> • <i>Neisseria meningitidis</i> • Non-pathogenic species of Neisseria
anaerobic		<i>Veillonella</i>	<i>Veillonella alcalescens</i> • <i>Veillonella parvula</i>
cocobacilli	aerobic	<i>Rickettsia</i>	<i>Rickettsia prowazekii</i> • <i>Rickettsia rickettsii</i> • <i>Rickettsia typhi</i>

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Go

sticks

aerobic	<i>Alcaligentes</i>	<i>Alkaligentes feacalis</i>
	<i>Bartonella</i>	<i>Bartonella bacilliformis</i> • <i>Bartonella henselae</i> • <i>Bartonella quintana</i>
	<i>Bordetella</i>	<i>Bordetella bronchiseptica</i> • <i>Bordetella parapertussis</i> • <i>Bordetella pertussis</i>
	<i>Brucella</i>	<i>Brucella abortus</i> • <i>Brucella canis</i> • <i>Brucella melitensis</i> • <i>Brucella suis</i>
	<i>Burkholderia</i>	<i>Burkholderia cepacia</i> • <i>Burkholderia mallei</i> • <i>Burkholderia pseudomallei</i>
	<i>Francisella</i>	<i>Francisella tularensis</i>
	<i>Legionella</i>	<i>Legionella pneumophila</i>
	<i>Kingella</i>	<i>Kingella denitrificans</i> • <i>Kingella kingae</i> • <i>Kingella oralis</i>
	<i>Pseudomonas</i>	<i>Pseudomonas aeruginosa</i> • <i>Pseudomonas fluorescens</i>
	<i>Stenotrophomonas</i>	<i>Stenotrophomonas maltophilia</i>
facultatively anaerobic	<i>Actinobacillus</i>	<i>Actinobacillus equi</i> • <i>Actinobacillus lignieresii</i>
	<i>Aeromonas</i>	<i>Aeromonas caviae</i> • <i>Aeromonas hydrophila</i> • <i>Aeromonas sobria</i>
	<i>Afipia</i>	<i>Afipia felis</i>
	<i>Citrobacter</i>	<i>Citrobacter freundii</i> • <i>Citrobacter koseri</i>
	<i>Eikenella</i>	<i>Eikenella corrodens</i>
	<i>Enterobacter</i>	<i>Enterobacter aerogenes</i> • <i>Enterobacter cloacae</i>
	<i>Escherichia</i>	<i>Escherichia coli</i>
	<i>Haemophilus</i>	<i>Haemophilus ducreyi</i> • <i>Haemophilus haemolyticus</i> • <i>Haemophilus influenzae</i> • <i>Haemophilus parainfluenzae</i>
	<i>Klebsiella</i>	<i>Klebsiella granulomatis</i> • <i>Klebsiella oxytoca</i> • <i>Klebsiella pneumoniae</i>
	<i>Pasteurella</i>	<i>Pasteurella haemolytica</i> • <i>Pasteurella multocida</i> • <i>Pasteurella ureae</i>
	<i>Plesiomonas</i>	<i>Plesiomonas shigelloides</i>
	<i>Proteus</i>	<i>Proteus mirabilis</i> • <i>Proteus vulgaris</i>
	<i>Salmonella</i>	<i>Salmonella</i> Enteritidis • <i>Salmonella</i> Typhi • <i>Salmonella</i> Paratyphi
	<i>Serratia</i>	<i>Serratia marcescens</i>
	<i>Shigella</i>	<i>Shigella boydii</i> • <i>Shigella dysenteriae</i> • <i>Shigella flexneri</i> • <i>Shigella sonnei</i>
	<i>Vibrio</i>	<i>Vibrio cholerae</i> • <i>Vibrio parahaemolyticus</i>
	<i>Yersinia</i>	<i>Yersinia enterocolitica</i> • <i>Yersinia pestis</i> • <i>Yersinia pseudotuberculosis</i>
microaerophilic	<i>Campylobacter</i>	<i>Campylobacter coli</i> • <i>Campylobacter fetus</i> • <i>Campylobacter jejuni</i>
	<i>Helicobacter</i>	<i>Helicobacter pylori</i>

		anaerobic	<i>Bacteroides</i>	<i>Bacteroides fragilis</i> • <i>Bacteroides vulgatus</i>
			<i>Fusobacterium</i>	<i>Fusobacterium necrophorum</i> • <i>Fusobacterium nucleatum</i> • <i>Fusobacterium stabile</i>
			<i>Leptotricha</i>	<i>Leptotricha buccalis</i>
			<i>Mobiluncus</i>	<i>Mobiluncus curtisii</i> • <i>Mobiluncus mulieris</i>
			<i>Prevotella</i>	<i>Prevotella melaninogenica</i>
	<i>Porphyromonas</i>	<i>Porphyromonas gingivalis</i>		
acid resistant	sticks	aerobic	<i>Mycobacterium</i>	<i>Atypical mycobacteria</i> • <i>Mycobacterium tuberculosis</i> • <i>Mycobacterium leprae</i>
non-stainable G +/-	spiral	strictly aerobic	<i>Leptospira</i>	<i>Leptospira biflexa</i> • <i>Leptospira interrogans</i> • <i>Leptospira parva</i>
		microaerophilic	<i>Borrelia</i>	<i>Borrelia burgdorferi</i> • <i>Borrelia hermsi</i> • <i>Borrelia recurrentis</i> • <i>Borrelia vincenti</i>
		strictly anaerobic	<i>Treponema</i>	<i>Non-pathogenic treponems</i> • <i>Treponema carateum</i> • <i>Treponema pallidum</i> • <i>Treponema phagedenis</i> • <i>Treponema pertenue</i>
Portal: Microbiology				

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