



Lecture title: Pseudomonas spp

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Summary: *Pseudomonas spp*

Pseudomonas aeruginosa

Burkholderia mallei

Burkholderia pseudomallei

Morphology and staining

1. Gram-negative rods ($1-3 \times 0.5$) μm , individual or short chain.
2. Non-spore forming, non-capsulated.
3. Motile except Burkholderia mallei.

Cultural characteristics

1. Obligate aerobic.
2. Grow at 37 °C and in range of (3-43) °C.
3. Growth on non-enriched media .
4. Diffusible pigments are produced, like pyocyanine and fluorescein.
5. Grow on MacConkey agar , dark or colourless colonies , non lactose fermented.
6. Blood haemolysis.
7. Colonies odour, grape like or musty.

Selective media

1. Cefrimide Agar is used as a selective medium for the isolation of Pseudomonas aeruginosa from pus, sputum



and drains etc. Also used for determining the ability of an

organism to produce fluorescein and pyocyanin.

2. Pseudomonas agar

Biochemical tests											
Biochemical for differential between <i>B. pseudomallei</i> and <i>B. mallei</i>											
Species	Oxidase	Odor	Growth on MacConkey agar	Growth at 42 °C	Motility	Nitrate reduction	Reduction of nitrate to N ₂ gas	Arginine dihydrolase	Oxidation of glucose	Oxidation of maltose	Oxidation of mannitol
<i>B. mallei</i>	(+)	-	+	-	-	+	-	+	+	-	-
<i>B. pseudomallei</i>	+	+*	+	+	+	+	+	+	+	+	+

(+) most positive, +* putrid becoming earthy

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Diseases		
Type	Host	Disease
<i>P. aeruginosa</i>	Cattle	Mastitis , Metritis
	Sheep and Cattle	Mastitis , Pneumonia
	Horse	Metritis , ulcerative keratitis
	Dogs & Cats	Otitis externa , Cystitis , Pneumonia
	Human	Otitis media , urinary tract infection , wounds infection
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