University of Mosul Lecture No.: College of Veterinary Medicine Date:

Unit of Scientific Affairs

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Lecture title: Pseudomonas spp

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Summary: Pseudomonas spp

Pseudomonas aeruginosa

Burkholderia mallei

Burkholderia pseudomellei

Morphology and staining

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

Cultural characteristics

- Obligate aerobic.
- 2. Grow at 37 $^{\circ}$ C and in range of (3-43) $^{\circ}$ C.
- 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. Cetrimide Agar is used as a selective medium for the

isolation of Pseudomonas aeruginosa from pus, sputum

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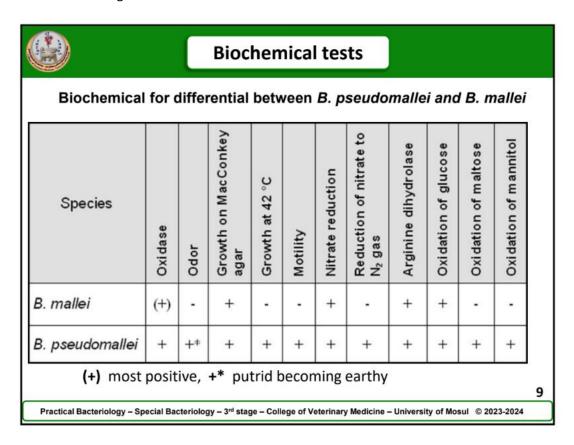


and drains etc. Also used for determining the ability of an

organism to produce fluorescein and pyocyanin.

2. Pseudomonas agar

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Biochemical tests Biochemical for differential between B. pseudomallei and B. mallei Growth on MacConkey agar Reduction of nitrate to N₂ gas Oxidation of mannitol Oxidation of maltose Arginine dihydrolase Oxidation of glucose Nitrate reduction ů Growth at 42 Species Oxidase Odor B. mallei + + + (+)+ B. pseudomallei + (+) most positive, +* putrid becoming earthy

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Host Cattle	Disease Mastitis , Metritis
	Mastitis , Metritis
Sheep and Cattle	Mastitis , Pneumonia
P. aeruginosa Dogs & Cats Human	Metritis , ulcerative keratitis
	Otitis externa , Cystitis , Pneumonia
	Otitis media , urinary tract infection , wounds infection
	Dogs & Cats