



Description:

- Discovered by Sir Alexander Ogston in 1880.
- *Staphylococcus aureus* or *S. aureus*, is a species of Gram-positive spherical bacteria that commonly causes surgical and skin infections, bacteraemia and food poisoning.

Interesting Facts:

- The first part of the name, "staph", is a reference to clusters of "grapes" that the organism forms. The "coccus" part refers to the round shape of the bacteria. The 'aureus' is from its golden colour.
- Many people carry *S. aureus* and even antibiotic resistant variants such as Methicillin/Multi resistant *Staphylococcus aureus* (MRSA), a superbug, on their skin and mucous membranes.
- Up to 20% of the human population may be a carrier of this bacteria.
- It is one of the most common causes of hospital acquired infections and is one of the five most common causes of infection after injury or surgery.

Infection:

- It can be transmitted by a number of means, for example via air droplets or aerosols, direct contact with objects that are contaminated (food, water, inanimate objects) or bites.
- Infections range from mild to life threatening. It can cause abscesses, boils and other infections of the skin, but can also produce infection in any organ of the body. The most common form of food poisoning is caused by *S. aureus* toxins.
- One of the toxins produced by this bacteria is responsible for Toxic Shock Syndrome.
- Practising good hand hygiene will minimise the chance of infection.

In the Lab / at Wickham Laboratories Ltd

- Media such as Mannitol Salt Agar (MSA) or Baird-Parker Agar (BPA) are used to examine for the presence/absence of *S. aureus*. Growth of colonies on MSA or BPA indicates the possible presence of *S. aureus*. This is then confirmed using identification techniques such as MALDI-ToF (Matrix Assisted Laser Desorption Ionization-Time of Flight).
- The presence / absence of *S. aureus* is one of the standard Quality Control (QC) tests required in the British, European, Japanese and US Pharmacopoeias for Topical Products (i.e. applied to Oromucosal, Gingival, Cutaneous, Nasal, Auricular and Vaginal surfaces) and Inhalation Products (Ph. Eur. 2.6.13, USP <62>, JP 4.05).
- It is one of the microorganisms required in both the USP Antimicrobial Effectiveness Test and the Preservative Efficacy testing of all products (Ph Eur. 5.1.3, USP <51>).
- It is one of the gallery of microorganisms used in growth promotion tests of media for Microbiological Quality of Non-sterile and Sterile Products.
- It can be used as a challenge microorganism for Zone of Inhibition testing and Log Reduction testing.

