



FACT SHEET

Aspergillus brasiliensis

Description:

- *Aspergillus brasiliensis* (*A. brasiliensis*) was discovered in 1729 by Pier Antonio Micheli, a priest.
- *A. brasiliensis* is a spore producing fungi that produces black conidia (spores) that are readily dispersed in the environment.
- *A. brasiliensis* is a member of the genus *Aspergillus*. There are approximately 180 species of *Aspergillus*, but fewer than 40 of them are known to cause infections in humans.

Interesting Facts:

- *Aspergillus* makes reference to this microorganism's shape – Pier Antonio thought it looked like an aspergillus (a holy water sprinkler) under the microscope.
- First known as *Aspergillus niger*, it was renamed in 2010 - molecular testing indicates organisms previously designated as *Aspergillus niger* actually belong to the *A. brasiliensis* species.
- It is used extensively in industry, in particular for enzyme production.
- All black aspergilli grow well on wheat bran, a crude plant biomass.
- *A. brasiliensis* has been found to be thermotolerant and has shown a tolerance to temperature variances from extreme heat to freezing, further indicating that this fungus can be found nearly anywhere.
- As moulds typically like damp environments, it is said that drying damp clothes on radiators can encourage *Aspergillus* to grow.

Infection:

- People with weakened immune systems or lung diseases are at a higher risk of developing health problems due to *A. brasiliensis*.
- *Aspergillus* genus is responsible for around 75% cases of otomycosis (an infection of the external auditory canal and auricle), and *A. brasiliensis* is the most common cause.
- *A. brasiliensis* can cause pulmonary infections. In rare cases it will invade existing pulmonary cavities and create a ball of matted hyphae known as aspergilloma. This aspergilloma may be present for years and may produce oxalic acid in situ, which may lead to renal problems caused by oxalosis.

In the Lab / at Wickham Laboratories Ltd

- Media such as Sabouraud Dextrose Agar (SDA) can be used to examine for the presence / absence of *A. brasiliensis*. Colonies that are initially white / yellowish that turn black in older cultures indicates *A. brasiliensis* presence.
- The presence / absence of *A. brasiliensis* is one of the standard Quality Control (QC) tests required in the British, European, Japanese and US Pharmacopoeias for all Products (Ph. Eur. 2.6.13, USP <62>, JP 4.05).
- It is one of the microorganisms required in both the Preservative Efficacy Test (Efficacy of Antimicrobial Preservation Ph Eur 5.1.3 and Antimicrobial Effectiveness Test USP <51>) for all products.
- It is one of the gallery of microorganisms used in growth promotion tests of media for Microbiological Quality of Non-sterile products (Ph. Eur.2.6.12 & 2.6.13, USP <61> & <62>, JP 4.05) and media for Sterility Testing (Ph. Eur. 2.6.1, USP <71>, JP 4.06).
- It can be used as a challenge microorganism for Disinfectant Testing, Zone of Inhibition testing and Log Reduction testing.
- The optimal growth temperature is 20-25°C for 5-7 days. To get sporulation it is best to incubate plates for the full 7 days.



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