

Lowenstein-Jensen Medium (L-J)

Purpose:

Used primarily for the isolation and propagation of *Mycobacterium spp.*, although it has been recommended for the isolation of *Nocardia* from sputum.

Principle:

Lowenstein-Jensen medium base is a relatively simple formulation that requires supplementation in order to support the growth of mycobacteria. Glycerol and egg mixture are added prior to the inspissation process. The substances provide fatty acids and protein required for the metabolism of mycobacteria. The coagulation of egg albumin during sterilization provides a solid medium for inoculation purposes. L-J medium also contains malachite green as an inhibitor to microorganisms other than acid-fast bacilli.

Mycobacterium leprae

From Wikipedia, the free encyclopedia

Mycobacterium leprae

[Hansen](#), 1874

Mycobacterium leprae, also known as **Hansen's bacillus**, is the [bacterium](#) that causes [leprosy](#) (Hansen's disease). It is an intracellular, pleomorphic, [acid fast](#) bacterium. *M. leprae* is a gram-positive [aerobic](#) rod-shaped (bacillus) surrounded by the characteristic waxy coating unique to [mycobacteria](#). In size and shape, it closely resembles [Mycobacterium tuberculosis](#). Due to its thick waxy coating, *M. leprae* stains with a carbon finishing rather than with the traditional [Gram stain](#). The culture takes several weeks to mature.

Optical microscopy shows *M. leprae* in clumps, rounded masses, or in groups of bacilli side by side.

It was discovered in [1873](#) by the Norwegian physician [Gerhard Armauer Hansen](#), who was searching for the bacteria in the skin nodules of patients with leprosy.

The organism has never been successfully grown on an artificial cell culture media. Instead it has been grown in mouse foot pads and more recently in nine-banded [armadillos](#). This can be used as a diagnostic test for the presence of bacillus in body lesions of suspected leprosy patients. The bacterium can infect [armadillos](#), so it is studied in them (see [Animal Rights](#)). The difficulty in culturing the organism appears to be due to the fact that the organism is an obligate intra-cellular [parasite](#) that lacks many necessary genes for independent survival. The complex and unique cell wall that makes members of the [Mycobacterium](#) genus difficult to destroy is apparently also the reason for the extremely slow replication rate.