

## Summary sheet for Mycobacterium infections

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# Summary sheet for *Mycobacterium* infections

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## Aetiological agent/s

Infections induced by a group of species belonging to the genus *Mycobacterium* including *Mycobacterium marinum*, *Mycobacterium chelonae*, *Mycobacterium fortuitum*.

## Epidemiology

Host/s (species: age): Seabass (*Dicentrarchus labrax*), meagre (*Argyrosomus regius*), seabream (*Sparus aurata*). Chronic disease occurring on large size fish.

Morbidity and mortality rates: chronic mortality usually lower than 5-10%.

Transmission: horizontal transmission from fish to fish through skin injuries and digestive track or from the environment, water and related biofilm being the natural reservoir of the pathogen. Vertical transmission is reported in some species but not documented in aquaculture fish.

Factors (environmental, others) for disease outbreak: Temperature dependent above 16°C

Factors influencing the occurrence of skin or intestinal micro lesions.

Zoonotic disease

## Clinical signs

Chronic progressive disease. Fish becomes lethargic and melanic with no or weak external clinical signs including scale losses, dermal ulceration or pseudo tumours (meagre), distended abdomen with ascitic liquid. Internally, frequent splenomegaly with development of grey / white granuloma on the spleen, liver and posterior kidney. Frequent occurrence of asymptomatic carrier.

## Samples to be collected for diagnostics

Moribund whole fish or target organs showing macroscopic pathological modifications (spleen, posterior kidney, liver, dermal lesions).

## Presumptive diagnostics analysis

Observation of the tuberculi in target organs and on fresh smears from organs. Detection of the acid fast bacteria on organ prints stained by Ziehl-Neelsen acid-fast stain, rapid Quick TB stain or Carbol-fushin stain.

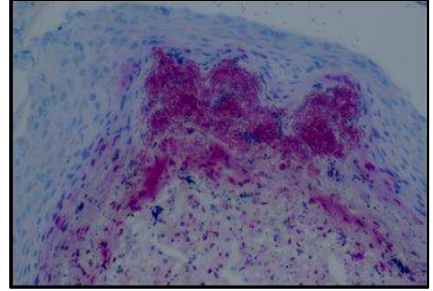
## Confirmatory diagnosis analysis

Isolation and identification of the bacterial strain by cultivation on standard *Mycobacterium* media (homogenates of infected tissue). Identification of the strain by mass spectrometry and 16S RNA sequencing.

Detection of the pathogen by PCR.



Splenomegaly in seabass



Acid fast bacteria (x 400 – Ziehl-Nielsen)