
Lab Dept: Microbiology/Virology

Test Name: **AFB SMEAR FOR MYCOBACTERIUM**

General Information

Lab Order Codes: SAFB

Synonyms: Acid-Fast Stain; TB Stain; Atypical *Mycobacterium* Smear;
Mycobacterium Smear

CPT Codes: 87206 – Smear, primary source with interpretation; fluorescent and/or acid fast stain for bacteria, fungi, parasites, viruses or cell types

87176 – Tissue processing (if appropriate)

87015 – Mycobacterium culture, concentration (if appropriate)

Test Includes: Auramine-rhodamine fluorochrome stain prepared and read with fluorescent microscope.

Logistics

Lab Testing Sections: Microbiology

Referred to: Mayo Medical Laboratories (MML: SAFB)

Phone Numbers: MIN: 612-813-5866

STP: 651-220-6555

Test Availability: Daily, 24 hours

Turnaround Time: 24 hours

Special Instructions:

- For diagnosis, an [acid-fast culture](#) must also be ordered.
- **Specific site** and **date/time of collection** are required for specimen processing.

Specimen

Specimen Type: Specimens may include body fluids, bone marrow, aspirates (abscess), bronchial wash, bronchoalveolar lavage, gastric aspiration/wash, skin, sputum, tissue, and stool. **Note: Swab specimens are not recommended.**

Container: Sterile container

Collection:

Specimen type	Collection Instructions
Body Fluid	1 mL in sterile container
Bone Marrow	Entire collection in green (lithium heparin) tube
Gastric Wash	10 mL in sterile container <ul style="list-style-type: none">• Specimen should be neutralized within 4 hours of collection with 100 mg of sodium carbonate per 5 to 10 mL gastric wash.
Respiratory (Bronch lavage, bronch washing, sputum)	4 mL in sterile container <ul style="list-style-type: none">• Collect 3 respiratory specimens for acid-fast smears and culture in patients with clinical and chest X-ray findings compatible with tuberculosis.• These 3 specimens should be collected at 8 to 24 hour intervals (24 hours when possible) and should include at least 1 first morning specimen.
Stool	5-10 grams in a sterile container
Tissue	Collect fresh tissue and submit 5-10 mm in a sterile container
Urine	Collect random urine and submit 2 mL in a sterile container
Swab Note: Fresh tissue or body fluid are the preferred specimen types. Recovery of mycobacteria and aerobic actinomycetes from swabs is variable. Swabs of wound, tissue or body fluid will be accepted in a culture transport swab (non-charcoal) culturette.	<ol style="list-style-type: none">1. Before collecting specimen, wipe away any excessive amount of secretion and discharge, if appropriate.2. Obtain secretions or fluid from source with sterile swab.3. If smear and culture are requested or both a bacterial culture and mycobacterial culture are requested, collect a second swab to maximize test sensitivity.

Transport/Storage:	<p>Onsite collections: Transport to the laboratory immediately.</p> <p>Offsite collections: Specimens must be promptly transported to the laboratory with the next available courier, not to exceed 24 hours from the time of collection.</p>
Sample Rejection:	Specimen improperly labeled specimen; specimens with prolonged transit time (see Transport/Storage for requirements); specimen not submitted in appropriate transport container; insufficient volume; external contamination; 24 hour urines; 24 hour sputum collections. If an unacceptable specimen is received, the physician or nursing station will be notified and another specimen requested before discarding the specimen.

Interpretive

Reference Range:	Negative (reported as positive or negative)
Critical Values:	Positive AFB smears will be called to the physician or patient's nurse.
Limitations:	<ul style="list-style-type: none"> ● Cultures are more sensitive than smears, therefore, negative acid-fast smears do not exclude a diagnosis of mycobacterial disease. ● Acid-fast stains are not specific for <i>M. tuberculosis</i>; other species in the genus <i>Mycobacterium</i> will stain acid-fast. ● Definitive identification requires mycobacterial culture or detection with molecular methods. <i>Mycobacterium tuberculosis</i> complex PCR is a sensitive and rapid method for detecting <i>Mycobacterium tuberculosis</i> complex organisms directly from clinical specimens. ● Acid-fast artifacts may demonstrate non-specific fluorescence and be confused with organisms.
Methodology:	Auramine-rhodamine stain
References:	Mayo Medical Laboratories December 2015
Updates:	<p>10/15/12: Removed notification of Infection Prevention for positive results. Swabs are no longer accepted for this testing.</p> <p>2/17/14: Updated Specimen Type and Sample Rejection sections.</p> <p>11/10/14: Added offsite collections.</p> <p>2/15/16: Previously performed at Children's laboratories</p>