MAYO CLINIC LABORATORIES

Test Definition: ACT

Actinomyces Culture, Varies

Overview

Useful For

Diagnosing anaerobic *Actinomyces* involved in infections

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
ISAN	Anaerobe Ident by Sequencing	No, (Bill Only)	No
TISSR	Tissue Processing	No, (Bill Only)	No
RMALA	Id MALDI-TOF Mass Spec Anaerobe	No, (Bill Only)	No

Testing Algorithm

When this test is ordered, the reflex tests may be performed at an additional charge.

Method Name

Conventional Culture Techniques

NY State Available

Yes

Specimen

Specimen Type

Varies

Shipping Instructions

Specimen should arrive within 72 hours of collection.

Necessary Information

Specimen source is required.

Specimen Required

Submit only 1 of the following specimens:

Specimen Type: Abscesses, intrauterine devices, percutaneous transtracheal aspirates, sterile body fluids, suprapubic aspirations, wounds
Supplies: Anaerobe Transport Tube (T588)
Container/Tube: Anaerobe transport tube

Specimen Volume: Entire specimen
Collection Instructions:
1. Specimens should be collected by needle and syringe aspiration or surgical drainage.
2. Send ambient.

Specimen Type: Spinal fluid
Container/Tube: Sterile container
Specimen Volume: Entire contents of vial number 2 (minimum volume 0.5 mL)
Collection Instructions: Always send vial number 2, if possible. If not, note which vial was sent. If single vial specimen for multiple laboratories, note “single vial specimen" on card accompanying specimen.

Specimen Minimum Volume
See Specimen Required

Reject Due To

Swab	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Ambient	72 hours	

Clinical & Interpretive

Clinical Information
Anaerobic *Actinomyces* are nonsporeforming, thin branching, gram-positive bacilli that are part of the normal microbiota of the human oral cavity and may also colonize the gastrointestinal and female genital tracts. Their presence is important in preserving the usual bacterial populations of the mouth and in preventing infection with disease-causing bacteria.

Actinomyces are generally of low pathogenicity but may be an important factor in the development of periodontal disease and may cause soft tissue infections in colonized areas of the body following trauma (surgical or otherwise). The typical lesion consists of an outer zone of granulation around central purulent loculations containing masses of tangled organisms ("sulfur granule"). Chronic burrowing sinus tracts develop. Typical actinomycotic infections occur around the head and neck, in the lung and chest wall, and in the peritoneal cavity and abdominal wall. Actinomycosis of the female genital tract occurs in association with the use of intrauterine contraceptive devices. Purulent collections containing "sulfur granules" may drain from some sinus tracts opening to the skin.

Reference Values
No growth
Identification of probable pathogens

Interpretation
Isolation of anaerobic *Actinomyces* in significant numbers from well-collected specimens, including blood, other

normally sterile body fluids, or closed collections of purulent fluid, indicates infection with the identified organism.

Cautions

Specimens should be collected by needle and syringe aspiration or surgical drainage to avoid contamination with normal microbiota *Actinomyces*, especially in and around the oral cavity; such contamination would make interpretation of culture results impossible.

Clinical Reference

1. Summanen P, Baron EJ, Citron DM, et al. Wadsworth Anaerobic Bacteriology Manual. 6th ed. Star Publishing Co; 2002
2. Butler-Wu SM, She RC. Actinomyces, Lactobacillus, Cutibacterium, and other non-spore-forming anaerobic gram-positive rods. In: Carroll KC, Pfaller MA, eds. Manual of Clinical Microbiology. 12th ed. ASM Press; 2019:938-967
3. Hall GS. Anaerobic gram-positive bacilli. In: Leber AL, ed. Clinical Microbiology Procedures Handbook. 4th ed. Vol 1. ASM Press; 2016

Performance

Method Description

Appropriate specimens are inoculated onto blood agar and into thioglycollate broth, which are then incubated under anaerobic conditions. Cultures are examined after 48 hours of incubation and thereafter (maximum of 14 days) for the presence of organisms that have characteristic colonial and Gram stain morphologies. Definitive identification is made using matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry or 16S rRNA sequencing.(Procop GW, Church DL, Hall GS, et al. The anaerobic bacteria. In: Koneman's Color Atlas and Textbook of Diagnostic Microbiology. 7th ed. Wolters Kluwer Lippincott, Williams and Wilkins; 2017:984-1073)

PDF Report

No

Day(s) Performed

Monday through Sunday

Report Available

14 to 20 days

Specimen Retention Time

7 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

87075-Actinomyces culture

87076-Id MALDI-TOF Mass Spec Anaerobe (if appropriate)

87153-Anaerobe identification by sequencing (if appropriate)

87176-Tissue processing (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
ACT	Actinomyces Culture	9816-0

Result ID	Test Result Name	Result LOINC® Value
ACT	Actinomyces Culture	9816-0