

Nocardia Quality Control Slides, Nocardia/Actinomyces Stain Set, Primary Stain, Stain Wash, Decolorizer, and Counterstain

INTENDED USE

Nocardia Quality Control Slides are designed for quality control of the Nocardia stain technique. The Nocardia/Actinomyces Stain Set provides a rapid, convenient, reliable method of staining.

SUMMARY

Nocardia species are a common saprophyte found in soil and water. This organism does not commonly colonize in the upper respiratory tract; therefore, upon its isolation in clinical specimens, it should be considered a pathogen. *Nocardia* spp. are partially acid-fast when stained using a modified acid-fast stain, utilizing a special decolorizer and counterstain. Acid-fastness is quite variable in *Nocardia* spp. Because of the variable staining properties, care must be taken when reviewing slides.

FOR IN VITRO DIAGNOSTIC USE ONLY

PRECAUTIONS

Do not use the staining reagents if their color has changed or a precipitate has developed. Solutions should be handled and used by trained laboratory personnel only. Handle all substrate slides by the edges. Do not touch the surface of the slide, as this may damage the substrate. The stain control slides contain bacterial concentrations which are air-dried and heat fixed. Routine bacteriological safety controls should be used when handling the bacterial slides.

STABILITY AND STORAGE

Nocardia Quality Control Slides and Nocardia/Actinomyces Staining reagents are stable to the stated expiration date when stored at room temperature (15–30°C). Keep from direct light and heat sources.

USER QUALITY CONTROL

Nocardia Quality Control Slides contain substrates at optimal concentrations necessary for a positive and a negative stain reaction. The Nocardia Quality Control Slides contain two wells: the positive control consists of *Nocardia asteroides* and the negative control consists of *Streptomyces albus* subsp. *albus*. The staining reagents should not be used if the color has changed, the expiration date has passed, or if there are other signs of deterioration.

PROCEDURE

Materials Provided: Nocardia Quality Control Slides, each slide with two wells per slide.

Nocardia/Actinomyces Stain Set	#0003535
Nocardia/Actinomyces Primary Stain	1 x 30 ml
Nocardia/Actinomyces Stain Wash	3 x 30 ml
Nocardia/Actinomyces Decolorizer	2 x 30 ml
Nocardia/Actinomyces Counterstain	2 x 30 ml

Bulk Components

Nocardia/Actinomyces Primary Stain	1 x 250 ml	#0003542
Nocardia/Actinomyces Stain Wash	1 x 250 ml	#0003543
Nocardia/Actinomyces Decolorizer	1 x 250 ml	#0003544
Nocardia/Actinomyces Counterstain	1 x 250 ml	#0003545

Materials Not Provided: Microscope with oil immersion lens, absorbent material, slides.

NOTE: The Alpha-Tec Nocardia Quality Control Slides are pre-fixed and should not be fixed by heat or alcohols prior to staining. Add the Alpha-Tec Nocardia Quality Control Slide at the first stain step of the staining procedure.

1. Prepare a thin smear of the patient specimen over an area of 2–3 sq cm. Heat fix by warming on a slide warmer (65–75°C) for 2 hours, or prepare the thin specimen on a CELL-BOND® slide and heat fix on a slide warmer (65–75°C) for 15 minutes.
2. Place the specimen and control slide(s) onto a staining rack and flood with the Nocardia/Actinomyces Primary Stain for 3–4 minutes.

3. Tilt the slide to drain the excess stain from the slide and return to the staining rack. **Do not rinse with water!**
4. Rinse the slide(s) continuously with the Nocardia/Actinomyces Stain wash for 3 seconds.
5. Gently rinse the slide(s) under running tap water.
6. Decolorize the smear/slide with Nocardia/Actinomyces Decolorizer for 10 seconds only.
7. Gently rinse the slide(s) under running tap water.
8. Apply the Nocardia/Actinomyces Counterstain and let it stand for 1 minute.
9. Gently rinse the slide(s) under running tap water.
10. Allow the slide(s) to air dry (in a vertical position, on end, to facilitate draining) and examine at 40x dry and 100x oil magnification.

EXPECTED RESULTS

Positive Control: *Nocardia asteroides* stain pink. *Nocardia* spp. may have a tendency to fragment into coccobacillary forms that can stain acid-fast. Due to the variability of the acid-fastness of *Nocardia* spp., the number of acid-fast stain organisms may be as low as 20–25% of the total number of organisms seen.

Negative Control: *Streptomyces albus* stain blue to purple and are acid-fast negative.

LIMITATIONS OF PROCEDURES

1. A positive staining reaction with an acid-fast stain is presumptive information indicating the presence of acid-fast bacteria in the specimen. For positive identification, culture methods and biochemical characterization must be employed.
2. Use of Nocardia Stain Wash or Decolorizer for longer than stated times may cause over-decolorization.

BIBLIOGRAPHY

1. Balows, A. Manual of Clinical Microbiology. 5th Ed. 1991. ASM. Washington, DC.
2. Laboratory Manual for Acid-Fast Microscopy. 2nd Ed. CDC. 1976.
3. Lennette, EH. Manual of Clinical Microbiology. 3rd Ed. 1980. pp. 150–179.
4. Procedures for the Isolation and Identification of Mycobacteria. CDC. 1975. #79-8230.

CONTACTS

Alpha-Tec Systems, Inc. offers a complete line of digestion systems, stains, and reagents for AFB specimen processing. For Technical Assistance contact Technical@AlphaTecSystems.com and for Customer Service, email Sales@AlphaTecSystems.com or call [+1] 800.221.6058 or [+1] 360.260.2779 between 8 am and 4 pm Monday through Friday, Pacific Time.

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GLOSSARY OF SYMBOLS



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