

**ROWLEY
BIOCHEMICAL
INC.**

DANVERS INDUSTRIAL PARK
10 ELECTRONICS AVENUE
DANVERS MA 01923
TEL: 978-739-4883 FAX: 978-739-5640
www.rowleybio.com

**A-111 WARTHIN-STARRY METHOD FOR
SPIROCHETES AND DONOVAN BODIES USING A
MICROWAVE OVEN**

FIXATION: **10% Buffered Neutral Formalin** (F-113) .Avoid chromate fixatives.

SECTION: Cut paraffin section at 5 microns

EQUIPMENT: Sears Kenmore model #87051 microwave oven (400 watts & 12V circuit)

STAINING PROCEDURE:

1. Deparaffinize and hydrate to triple distilled water.
2. Place slides in **Silver Nitrate, 1%** (A-111-1) in the microwave oven for 45-60 seconds until solution boils.
3. Prepare developer solution:
15.0ml **Silver Nitrate, 2%** (A-111-2)
3.75ml **Gelatin Solution, 5%** (A-111-5)
2.0ml **Hydroquinone Solution, 0.15%** (A-111-6)

Combine in the above order mixing thoroughly. Prepare immediately before use.

4. Place slides in developer in the microwave oven for 45 to 60 seconds. Developer will begin to boil and brown streaks will form in the solution.
5. Wash quickly and thoroughly in hot tap water.
6. Rinse in distilled water.
7. Dip in 95% alcohol.
8. Dip in absolute alcohol.
9. Clean in **Xylene** (C-120), 2 changes.
10. Mount with **Permunt** (M-18).

RESULTS:

Treponema pallidum, Legionella pneumophila, & Leptospira spp	Dark brown to black
Background	Light to medium gold

SUMMARY

The 15-minute Warthin-Starry silver impregnation procedure with the microwave oven resulted in little or no nonspecific staining of background tissues but intense staining of microorganisms compared with the microwave Dieterle technique. Staining time was significantly reduced, and the procedure avoided the complex handling required by the conventional Warthin-starry method. In our laboratory, the microwave Warthin-Starry procedure is reliable, reproducible and superior to other established silver impregnation methods.

REFERENCES:

Vail, K.F.: The Warthin-Starry Impregnation Technique with the Microwave Oven.
Histo-Logic, 17:235-236, 1987.