



SS1028-VO

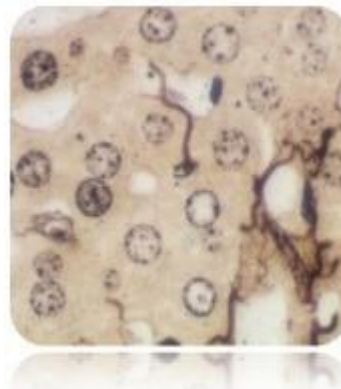
# Warthin-Starry Stain Kit

**Description:** The Warthin-Starry Stain Kit is intended for use in the visualization of Spirochetes, Helicobacter pylori, Legionella pneumophila, and Cat Scratch Fever bacteria. This kit may be used on formalin-fixed, paraffin-embedded or frozen sections.

Helicobacter pylori:	Black
Legionella pneumophila:	Black
Spirochetes:	Black
Cat Scratch Fever Bacteria:	Black
Klebsiella:	Brown/Black
Nuclei:	Brown
Background:	Yellow

**Uses/Limitations:** Not to be taken internally.  
For In-Vitro Diagnostic use only.  
Histological applications.  
Do not use if reagents become cloudy.  
Do not use past expiration date.  
Use caution when handling reagents.  
Non-Sterile.


**Control Tissue:** Any spirochete infected tissue.  
H. Pylori infected tissue.



## Kit Contents:

<u>Kit Contents</u>	<u>Volume</u>	<u>Storage</u>
SpiroPrep	125 ml	18-25°C
Gelatin (4%), Acidulated	2 x 65 ml	2-8°C
Silver Nitrate Solution (0.5%), Acidulated	125 ml	2-8°C
Hydroquinone Solution (0.1%), Acidulated	2x30 ml	2-8°C
Silver Nitrate Solution (2%), Acidulated	30 ml	2-8°C

**Precautions:** Avoid contact with skin and eyes.  
Harmful if swallowed.  
Follow all Federal, State, and local regulations regarding disposal.

Storage: 2° C  25° C

**Mixed Storage Conditions.  
Separate Contents.**



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### Preparation of Reducing Solution Prior to Beginning:

1. Warm Gelatin (4%), Acidulated to liquify prior to beginning. Prepare Reducing Solution in an unused plastic Slide Jar.
2. Combine:


12.5 ml	Gelatin (4%), Acidulated
20-30 Drops	Silver Nitrate Solution (2%), Acidulated
7.5 ml	Hydroquinone Solution (0.1%), Acidulated

### Procedure (Standard):

1. Deparaffinize sections if necessary and hydrate to distilled water.
2. For spirochete staining only, place slide in room temperature SpiroPrep for 5 minutes (Omit this step for other listed bacteria). Note: Use of SpiroPrep will not affect staining of *Helicobacter pylori*, *Legionella pneumophila*, or Cat Scratch Fever bacteria.
3. Pour 20ml of Silver Nitrate Solution (0.5%), Acidulated in an unused plastic staining jar and place in a waterbath at 65-70°C for 5 minutes.
4. Place slide in warmed Silver Nitrate Solution (0.5%), Acidulated and incubate for 3-5 minutes with repeated agitation.
5. Transfer slide into previously prepared Reducing Solution and agitate. Place staining jar in a waterbath at 65-70°C with frequent agitation until tissue section is brown (approximately 1-5 minutes).
6. Rinse slide carefully in hot tap water for 2 minutes.
7. Dehydrate slide through 3 changes of fresh Absolute Alcohol.
8. Clear and mount in synthetic resin.

### Rapid Procedure (Microwave Oven):

1. Deparaffinize sections if necessary and hydrate to distilled water.
2. For spirochete staining only, place slide in room temperature Spirochete Sensitizer for 5 minutes (Omit this step for other listed bacteria). Note: Use of SpiroPrep will not affect staining of *Helicobacter pylori*, *Legionella pneumophila*, or Cat Scratch Fever bacteria.
3. Pour 20ml of Silver Nitrate Solution (0.5%), Acidulated in an unused plastic staining jar and microwave at full power for 30 seconds. Invert several times to equalize temperature.
4. Place slide in warmed Silver Nitrate Solution (0.5%), Acidulated and incubate for 5 minutes with repeated agitation.
5. Warm previously prepared Reducing Solution in microwave at full power for 20 seconds. Invert several times to equalize temperature.
6. Transfer slide into warmed Reducing Solution and with frequent agitation until tissue section is brown (approximately 2-5 minutes).
7. Rinse slide carefully in hot tap water for 2 minutes.
8. Dehydrate slide through 3 changes of fresh Absolute Alcohol.
9. Clear and mount in synthetic resin.

Storage: 2° C  25° C

**Mixed Storage Conditions.**  
**Separate Contents.**




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### References:

1. Kerr, D.A. Improved Warthin-Starry method for tissue sections; American Journal of Clinical Pathology, 1938, Vol. 8: pages 63-67.
2. Pounder, D.J. Warthin-Starry for Legionella. American Journal of Clinical Pathology, August 1983, Volume 80(2): page 276.
3. Ohtani, Y., Yoshirio, T., Akagi, T. Ultrastructure of Warth-Starry Stain-Positive Bacteria in Abscess-Forming Reticular Lymphadenitis. Pathology – Research and Practice, April 1992, Volume 188, Issue 3, pages 314-317.
4. Field, A.S., Marriott, D.J., Hing, M.C. The Warthin-Starry stain in the diagnosis of small intestinal microsporidiosis in HIV-infected patients. Folia Parasitology (Praha) , 1993, Volume 40(4): pages 261-266.

Description:	Volume
SpiroPrep	125 ml 500 ml 1000 ml
Gelatin (4%) Acidulated	60 ml 125 ml 500 ml
Silver Nitrate Solution (0.5%) Acidulated	125 ml 500 ml
Hydroquinone Solution (0.1%) Acidulated	30 ml 125 ml
Silver Nitrate Solution (2%) Acidulated	30 ml 125 ml

Storage: 2° C  25° C

**Mixed Storage Conditions.**  
**Separate Contents.**

