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**THIOFLAVINE S - AMYLOID**

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**PURPOSE:** To demonstrate amyloid deposits in tissue sections.

**PRINCIPLE:** Amyloid is homogeneous and eosinophilic, the deposits are extracellular and may become sufficiently large enough to cause damage to surrounding tissues. when stained with Thioflavine S, the amyloid, will fluoresce an apple green color under the fluorescence microscope.

**CONTROL:** Known amyloidosis containing tissue.

**FIXATION:** Carnoy's and absolute alcohol are recommended, 10% NBF or Bouin's.

**TECHNIQUE:** Cut paraffin sections at 10 $\mu$ .

**EQUIPMENT:** Rinse glassware in DI water. Coplin jars, graduated cylinder.

**REAGENTS:**

**1% Thioflavine S Solution:**  
Thioflavine S                      0.5 gm  
Distilled water                      50.0 ml

**Mayer's Hematoxylin:**  
See Congo Red

Make fresh, discard after use.

**70% Alcohol**

Caution: avoid contact and inhalation.

**Glycerin Jelly:**  
See Stock Solutions

**SAFETY:** Wear gloves, goggles and lab coat. Avoid contact and inhalation.

**PROCEDURE:**

1. Deparaffinize and hydrate to distilled water.
2. Stain in Mayer's hematoxylin for 5 minutes.
3. Wash in running water for 5 minutes.
4. Rinse in distilled water.
5. Place in Thioflavine S for 5 minutes.
6. Differentiate in 70% alcohol for 5 minutes.
7. Rinse in distilled water, two changes, mount in glycerin jelly.

**RESULTS:**

Amyloid	fluorescence
background	black

**NOTES:** Thioflavin T can be substituted for Thioflavin S.

Prepared: \_\_\_\_\_ By: \_\_\_\_\_

Approved: \_\_\_\_\_ By: \_\_\_\_\_

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## PROCEDURE CARD

### AMYLOID - THIOFLAVINE S

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**CONTROL:** Known amyloidosis containing tissue.

**TECHNIQUE:** Cut paraffin sections at 10 microns.

#### PROCEDURE:

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6. Differentiate in 70% alcohol for 5 minutes.
7. Rinse in distilled water, two changes, mount in glycerin jelly.

#### RESULTS:

Amyloid will fluoresce an apple green color under the fluorescence microscope.  
background - black

#### Mayer's Hematoxylin:

##### 1% Thioflavine S Solution:

Thioflavine S	0.5 gm
Distilled water	50.0 ml

Make fresh, discard after use.

**Caution:** avoid contact and inhalation.

#### 70% Alcohol

#### Glycerin Jelly:

See Stock Solutions

**SAFETY/PPE:** Wear gloves, goggles and lab coat. Do not expose stain to skin.