ScyTek LABORATORIES INC.

Instructions For Use

PAD-IFU

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Periodic Acid Schiff (PAS) Diastase Stain Kit

Description and Principle

The Periodic Acid Schiff (PAS) Diastase Stain Kit is intended for use in histological demonstration of glycogen in tissue sections. α-Amylase acts on glycogen to break it into smaller sugars that are then washed off the tissue section allowing visualization of glycogen by comparison of digested and undigested slides. Glycogen sites will not be stained on slide treated with α-Amylase digestion. The PAS reaction is also useful for demonstration of mucosubstances.

α-Amylase breaks glycogen in to smaller sugars by catalyzing the hydrolysis of 1,4 glucosidic bonds. Periodic acid oxidizes tissue carbohydrates to form aldehydes capable of binding Schiff's Solution. Visualization of Schiff's is caused by restoration of the dye's quinoid structure resulting in characteristic magenta staining. Glycogen digested by α-Amylase is not oxidizable by periodic acid so will not stain with Schiff's.

Expected Results

PAS Positive Material:	Magenta
Nuclei:	Blue

Kit Contents

	Storage
1. Alpha-Amylase Solution (1%)	2-8° C
2. Periodic Acid Solution	2-8° C
3. Schiff's Solution	2-8° C
4. Hematoxylin, Mayer's	18-25°C
5. Bluing Reagent	18-25°C

Suggested Controls *(not provided)*

Liver.

Uses/Limitations

For In-Vitro Diagnostic use only.
Do not use if reagents become cloudy or precipitate
Do not use past expiration date.
Use caution when handling reagents.
Non-Sterile
Intended for FFPE sections cut at 5-10µm.
This procedure has not been optimized for frozen sections.
Frozen sections may require protocol modification.

Storage

Mixed storage conditions. Store according to individual label instructions.

Safety and Precautions

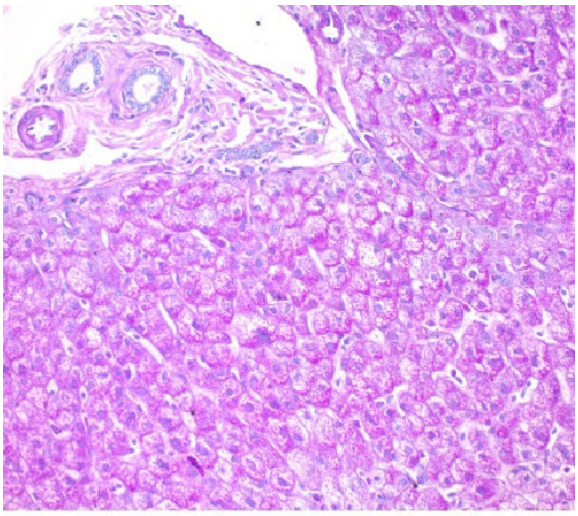
Please see current Safety Data Sheets (SDS) for this product and components GHS classification, pictograms, and full hazard/precautionary statements.

Procedure:

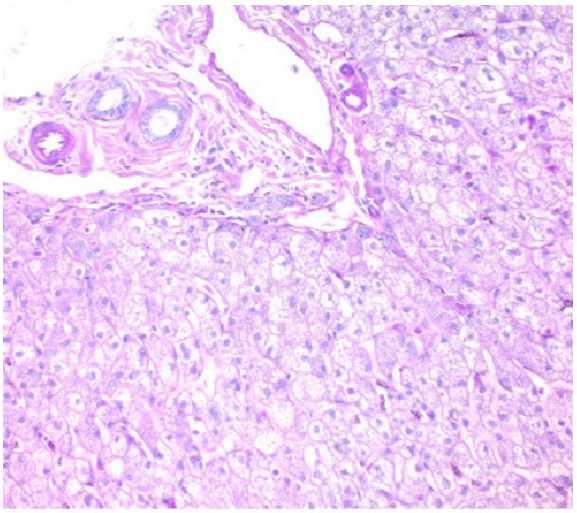
1. Deparaffinize two identical sections if necessary and hydrate to distilled water.

2. If sections are Zenker-fixed, remove mercuric chloride crystals using iodine and clear with sodium thiosulfate. Rinse in running tap water.

3. Apply Alpha-Amylase Solution (1%) to one slide and incubate for 10-30 minutes at room temperature.



Glycogen demonstrated on healthy Human Liver with Periodic Acid Schiff (PAS) without digestion by alpha amylase



Healthy Human Liver treated with alpha-amylase and stained with Periodic Acid Schiff (PAS)

4. Rinse in 2 changes of distilled water.

Note: The remainder of this procedure is performed on both the "digested" and "undigested" slides.

5. Apply Periodic Acid Solution (1%) to tissue section and incubate for 5 minutes.

6. Rinse slide in 4 changes of distilled water.

7. Apply Schiff's Solution to tissue section and incubate for 10-20 minutes.

8. Rinse slide in warm running tap water for 2 minutes.

9. Rinse slide in distilled water.

10. Apply Hematoxylin, Mayer's (Lillie's Modification) to tissue section and incubate for 1 minute.

11. Rinse in running tap water for 1 minute followed by 2 changes of distilled water.

12. Apply Bluing Reagent for 5 seconds and rinse in distilled water

13. Dehydrate through graded alcohols.

14. Clear, and mount in synthetic resin.

Note: A crystal precipitate may be seen when staining with small volumes of Schiff's solution on horizontal slides. This precipitate can be removed by rinsing vigorously in warm tap water for 5 minutes or by reapplying Periodic Acid Solution to the tissue and agitating the slide for 30-60 seconds. These modifications should be performed before counterstaining.

References

1. Culling CFA, Allison RT, Barr WT.: Cellular Pathology Technique, 4th Edition. Butterworths, Pages 216-220, 1985.
2. Sheenan, D.C., Hrapchak, B.B. Theory and Practice of Histotechnology, 2nd Edition. CV Mosby, Columbus, OH. Pages 164-167, 1980.

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