

## Thermo Scientific Richard-Allan Scientific Chromaview – Advanced Testing Schiff Reagent Instructions for Use

Thermo Scientific's Schiff Reagent is a clear, colorless reagent intended for use as a stain for carbohydrates, glycogen, basement membranes, and fungus. Thermo Scientific Schiff Reagent is ready to use and does not have to be reconstituted.

### Instructions For Use

- Follow individual laboratory standard operating procedure for the specific staining procedure utilizing the Schiff Reagent (e.g. periodic-acid Schiff – PAS stain, alcian blue-periodic acid-schiff – AB-PAS stain, etc.)
- Alternately, the below recommended staining protocols may be used with the Schiff Reagent:

#### Standard Staining Protocol – Periodic Acid Schiff Reagent Reaction (PAS Stain)

- Deparaffinize and hydrate sections to deionized water.
- Place sections in Periodic Acid Solution for 5 minutes at room temperature.
- Rinse sections in several changes of deionized water.
- Stain sections in Schiff Reagent for 15 minutes to achieve desired contrast.
- Rinse sections in lukewarm running tap water for 10 minutes.
- Stain sections in Hematoxylin 1 for 1 minute to achieve desired contrast.
- Rinse sections in deionized water for 30 seconds.
- Place sections in Bluing Reagent for 1 minute.
- Rinse sections in deionized water for 30 seconds.
- Dehydrate sections in two changes of anhydrous alcohol for 1 minute each.
- Clear sections in three changes of clearing reagent for 1 minute each and mount.

#### Standard Staining Protocol – Alcian Blue Periodic Acid Schiff Reaction (AB-PAS)

- Deparaffinize and hydrate to deionized water.
- Place slides in Alcian Blue pH 2.5 Stain Solution for 30 minutes at room temperature.
- Rinse sections in several changes of deionized water.
- Place sections in Periodic Acid Solution for 5 minutes at room temperature.
- Rinse sections in several changes of deionized water.
- Stain sections in Schiff Reagent for 15 minutes.
- Rinse sections in lukewarm running tap water for 10 minutes.
- Rinse sections in several changes of deionized water.
- Optional Nuclear Stain:
  - Hematoxylin 7211 for 1 minute.
  - Rinse sections in several changes of deionized water.
  - Stain sections in Bluing Reagent for 1 minute.
  - Rinse sections in running tap water for 1 minute.
- Rinse sections in several changes of deionized water.
- Dehydrate sections in two changes of anhydrous alcohol for 1 minute each.
- Clear sections in three changes of clearing reagent for 1 minute each and mount.

### Discussion

It is strongly recommended to store Schiff Reagent tightly capped at 2-8°C in the laboratory refrigerator; this ensures longer stability. If stored improperly, Schiff Reagent may form a white precipitate. In most cases, small amounts of white precipitate will not impede on the stain performance. However, larger amounts of white precipitate can lead to a weak Schiff stain reaction. Contamination will cause the Schiff Reagent to discolor; it should be discarded. The Schiff Reagent is for "In Vitro" use only. Refer to the Material Safety Data Sheet for Health and Safety Information. All reagents are stable and should not form precipitate under ordinary storage parameters. The Schiff Reagent should be discarded after use. All dyes used in this formulation are certified by the Biological Stain Commission.

### Probable Mode of Action

Periodic acid oxidizes various tissue moieties to aldehydes. Schiff Reagent bonds to the induced tissue-aldehyde in its leuco (colorless) form. Water rinsing removes the sulfuric acid, restoring the Schiff Reagent to its rose-colored form.

### References

- Bancroft, J.D. and Stevens, A. Theory and Practice of Histological Techniques. Churchill Livingstone, New York, NY, 1977.
- Sheehan, D.C. and Hrapchak, B.B. Theory and Practice of Histotechnology, 2nd Edition. Mosby, St. Louis, MO, 1980.
- Thompson, C.C. Selected Histochemical and Histopathological Methods. Springfield, IL, 1966.
- Lillie, R.D., H.J. Conn's Biological Stains. Williams & Wilkins, Baltimore, MD, 1972.

### Order Information

Product	Size	Qty.	REF
Schiff Reagent	500ml	1	88017
Periodic Acid Solution (0.5%)	500ml	1	88016
Hematoxylin 1	500ml	1	88018
Hematoxylin 7211	473ml	4/cs	7211
Alcian Blue pH 2.5 Stain Solution	500ml	1	88043

