



## Schiff's Fuchsin-Sulphite Reagent

S070

Schiff's Fuchsin-Sulphite Reagent is recommended for detection of aldehyde and ketones. It can also be used for detection of glycoproteins in acryl amide gel.

### Composition\*

#### Ingredients

Pararosaniline	4.6gm
Sodium metabisulphate	7.3gm
0.1 HCl	1000.0ml

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Detection of glycoproteins in PAGE gels

1. Apply 30-100 micrograms of each protein to individual gels and electrophoresis.
2. Remove gels after electrophoresis and insert steel pin into the gel to mark the tracking dye.
3. Fix gels for 30 minutes with 40% ethanol - 7% acetic acid in water. (Methanol may replace ethanol).
4. Wash the gels 4 times, 30 minutes each wash, with fresh fixative solution.
5. Continue the fixation overnight with fresh fixative solution.
6. Next day, wash each gel twice, 30 minutes, with fresh fixative solution.
7. Oxidize the glycoprotein bands by immersing gels in a solution of 1% periodic acid(S073), 3% acetic acid for 60 minutes.
8. Wash the oxidized gels 10 times with water, 10 minutes each wash, to remove traces of periodic acid.
9. Immerse the gels in Schiff's Reagent (S074) in the DARK for 60 minutes (Glycoprotein should give visible bands of red-purple in about 20 minutes).

### Principle And Interpretation

The dye pararosaniline reacts with three molecules sulfur dioxide (provided by adding sodium metabisulfite), forming a colorless reagent. This subsequently reacts with an aldehyde to give an addition product that loses sulfurous acid to form a new colored compound. The ratio of aldehyde to dye in the colored product appears to be approximately 3:1, and permits colorimetric determination of long-chain aldehydes. The reaction apparently does not have straightforward stoichiometry, since formaldehyde gives from three to seven different products depending on the relative amounts of dye, formaldehyde and sulfur dioxide.

### Quality Control

#### Appearance

Colourless solution

#### Clarity

Clear without any particles.

#### Detection of Glycoproteins

Gel electrophoresis of protein was carried out and band of glycoprotein was visualized using Schiff's reagent.

#### Result

Glycoprotein gives red-purple bands.

## Storage and Shelf Life

Store at 2-8°C in tightly closed container and away from bright light. Use before expiry date on label.

## Reference

- 1.) Schiff, H (1886) Eine neue Reihe organischen Diaminen, Justus Liebigs AnnChemie 140,92-137.
- 2.) Stain Theory-Schiff's Reagent
- 3.)Textbook Of Medical Laboratory Technology;Praful B. Godkar

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