

## Sudan III Alcohol Saturated Solution

Cat. No.: S1520411 | Pack size: 100 mL | Storage: Protected from light, room temperature

### Overview

Sudan III Alcohol Saturated Solution is a BioReagent biological stain for microscopy used for neutral fat staining.

Sudan dyes stain lipids primarily through physical liposolubility and adsorption. The dye transfers from the staining solution into stained lipids, rendering neutral fat orange-red.

### Key Features

- Saturated Sudan III alcoholic solution for lipid staining
- Used to demonstrate tissue fatty degeneration and abnormal lipoid deposition
- Applicable to frozen sections of fresh tissue
- Neutral fat expected to appear orange-red

### Product Information

| Item                    | Description                                                         |
|-------------------------|---------------------------------------------------------------------|
| Synonyms                | Sudan III stain                                                     |
| Specifications & Purity | BioReagent, Biological Stain, for microscopy                        |
| Stability & Storage     | Store at room temperature long term (12 months). Store in the dark. |
| Storage Conditions      | Protected from light, room temperature                              |
| Shipping                | Normal                                                              |
| Grade                   | Biological Stain, BioReagent, for microscopy                        |

### Contents & Storage

| Cat. No.       | Component / Product                  | Size   | Storage                |
|----------------|--------------------------------------|--------|------------------------|
| S1520411-100mL | Sudan III Alcohol Saturated Solution | 100 mL | RT, protect from light |

## Materials Required But Not Supplied

| Item                          | Recommended Specification                      | Purpose                                 |
|-------------------------------|------------------------------------------------|-----------------------------------------|
| Personal protective equipment | Lab coat, disposable gloves and eye protection | Safe handling and contamination control |
| Fresh tissue and cryostat     | -20 °C to -25 °C; lipoma samples around -30 °C | Frozen section preparation              |
| Glass slides                  | Clean                                          | Section mounting                        |
| 70% ethanol                   | Fresh                                          | Brief rinse and differentiation         |
| Distilled water               | Fresh                                          | Rinsing                                 |
| Microscope                    | Bright-field microscope                        | Observation                             |

## Preparation Before Use

1. Prepare frozen sections of fresh tissue; paraffin sections or ethanol-containing fixatives are not suitable for fat staining.
2. Cut frozen sections at 5-10 µm, with 6-8 µm optimal.
3. Protect the staining solution from light and prevent dye precipitation.

## Protocol

### Procedure (For Reference Only)

1. Prepare frozen sections of fresh tissue at low temperature, generally -20 °C to -25 °C. For lipoma samples, adjust to -30 °C.
2. Cut frozen sections at 5-10 µm (6-8 µm is optimal) and mount on glass slides.
3. Rinse briefly with 70% ethanol.
4. Immerse in saturated Sudan alcoholic solution for 1-2 min.
5. Wash away excess staining solution with 70% ethanol.
6. Rinse with distilled water for 1 min.
7. Proceed with downstream experiments according to specific experimental requirements.

## Expected Results

| Target      | Expected Result |
|-------------|-----------------|
| Neutral fat | Orange-red      |

## Storage & Handling

Store as indicated on the product label: Protected from light, room temperature.

**Shelf life:** Store at room temperature long term (12 months). Store in the dark.

## Safety & Precautions

1. For fat staining, specimens should not be fixed with ethanol-containing fixatives or prepared as paraffin sections; frozen sections are required.
2. Dye precipitation must be prevented during staining. Therefore, sections should be sealed when immersed in the staining solution to avoid contact with circulating air, which can cause precipitation due to solvent volatilization.
3. Frozen sections stain easily; overstaining should be avoided during counterstaining.
4. Sudan dyes fade easily and should be stored in a sealed container.
5. For your safety and health, please wear a laboratory coat and disposable gloves during operation.
6. This product is for research use only; strictly prohibited for other purposes.

## Quality Control

| QC Item               | Method             | Acceptable Range                                                                                                                       |
|-----------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Appearance            | Visual inspection  | Conforms to the appearance described in this manual; no obvious contamination, discoloration or abnormal precipitate unless specified. |
| Identity and labeling | Receipt inspection | Catalog number, lot number, size, storage condition and expiry date are legible.                                                       |

| QC Item          | Method                                      | Acceptable Range                                                                                                        |
|------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Functional check | Run with a representative sample or control | Expected staining, preservation, coagulation, inhibition or assay response is observed under the recommended procedure. |

## Troubleshooting

| Issue                          | Possible Causes                                                             | Corrective Action                                                                                                                                  |
|--------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Weak staining                  | Staining time too short, reagent exhausted or sample preparation unsuitable | Increase staining time within the recommended range, prepare fresh working solution if required, or repeat with properly prepared sections/smears. |
| Overstaining / high background | Staining time too long or inadequate washing                                | Shorten staining time and rinse thoroughly with water or the indicated wash buffer.                                                                |
| Uneven staining                | Uneven sample thickness or insufficient reagent coverage                    | Prepare uniform smears/sections and ensure the specimen is fully covered by reagent.                                                               |
| Precipitate or artifacts       | Aged reagent, incomplete deparaffinization or drying during staining        | Use clean slides, replace/filter reagent when required, and prevent drying of the specimen.                                                        |

## Recommended Applications

lipid staining · neutral fat staining · fatty degeneration studies · frozen section microscopy

## Contact & Global Offices

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## Limitations & Disclaimer

- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.
- Where any kit component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, and disposal information.
- Performance depends on sample type, sample condition, handling, and operator technique. Users are responsible for validating the product for their specific application.
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