Oil-Red-O Stain

Laboratory Use Only CE

PRODUCT INFORMATION:
SSP015 100ml Ready to use
SSP015 250ml Ready to use
SSP015 500ml Ready to use

PERFORMANCE CHARACTERISTICS:
Staining Interpretation:
Neutral Fat : Orange - Bright Red
Nuclei : Blue

SUMMARY AND EXPLANATION

For *laboratory* use only

Oil Red O is an oil-soluble dye. Oil-soluble dyes exhibit greater solubility of the dye in lipoid substances in the tissue. Oil Red O is used to demonstrate neutral fats in the tissue. Excess lipid accumulation in peripheral tissues is a key feature of many metabolic diseases. Therefore, techniques for quantifying lipids in various tissues are important for understanding and evaluating the overall metabolic status. The method demonstrates the tissue lipid content and its distribution in the tissue.

PRINCIPLE OF THE PROCEDURE

The Oil Red O stain is based on the greater solubility of the dye in neutral fats than in the solvent in which it is dissolved. The frozen section is the reliable standard when revealing lipids in tissues. Oil Red O staining can only be performed on frozen sections since tissue fat is removed by the alcohols and clearing agents used for paraffin processing. Oil Red O is a fat-soluble diazo dye and dissolves in lipids and stains them to a red hue. In tissues containing fat, the Oil Red O moves from the staining solution to the tissue fat because of its greater solubility in the latter than in alcohol. Hence, it is called a lipophilic dye. The sections are counterstained with hematoxylin and mounted in an aqueous medium or a synthetic medium that will not dissolve the tissue fat. An aqueous mountant such as glycerol jelly can be used.

REAGENTS PROVIDED

Kit Contents	Product Code	Storage Conditions	Pack Sizes		
			100ml	250ml	500ml
Oil-Red-O (Reagent A)	IPS071	RT	100ml	250ml	500ml
Harris Hematoxylin (Reagent B)	PS021	RT	100ml	250ml	500ml

STORAGE AND HANDLING

Storage Recommendations: Store at recommended temperatures. When stored at the appropriate conditions, the reagents are stable until expiry. **Do not use the reagents after expiration date provided on the vial.**

To ensure proper regent delivery and stability, replace the dispenser cap after every use and immediately place the vials at recommended temperatures away from sunlight in an upright position.

SPECIMEN PREPARATION

Recommended positive controls: Neutral fats in liver tissue

Sample preparation and fixation: Formalin-fixed, Paraffin-embedded tissue sections of 3- 5 µm thickness

PRECAUTIONS

1. Normal precautions exercised in handling laboratory reagents should be followed.
2. This product should be used by qualified and trained professional users only
3. The product contains alcohol and is classified as highly-flammable, must be kept away from ignition sources
4. It can cause serious eye and skin irritation. Refer to Material Safety Datasheet for any updated risk, hazard or safety information.
5. Dispose of waste observing all local, state, provincial or national regulations.
6. Do not use reagents after expiration date.
7. Use protective clothing and gloves, while handling reagents.
8. Avoid microbial contamination of reagents as it may lead to incorrect results.

MATERIALS REQUIRED, BUT NOT PROVIDED

- 70% Alcohol
- Microscopic slides (Positively Charged)
- Slide holder
- Jars
- Cover slips
- Coplin jars
- Aqueous Mountant

STAINING PROCEDURE

1. Dip the frozen sections in 70% alcohol for 10 seconds.
2. Stain in Oil-Red-O (Reagent A) for 5 minutes.
3. Wash quickly in 70% Alcohol - avoid folds in sections.
4. Wash in distilled water.
5. Counter stain in Harris Hematoxylin(Reagent B) for 10 seconds.
6. Wash in tap water- avoid folds in seconds.
7. Mount in compatible medium (e.g. Glycerin Jelly medium).

PERFORMANCE CHARACTERISTICS

Oil Red O for Fat stains Orange-Bright Red color and Nuclei stains Blue color.

TROUBLESHOOTING

1. Follow the specific protocol recommendations according to data sheet provided
2. Tissue staining is dependent on the handling and processing of the tissue Prior to staining. Improper fixation, tissue processing, freezing, thawing, washing, drying, heating, sectioning or contamination with other tissues or fluids may produce artifacts, reagent trapping or inaccurate results
3. Do not allow the section to dry out during the entire staining process
4. Permount (toluene/xylene based) cannot be used to affix the cover slip as it will also dissolve lipids
5. Glycerin Jelly should be warmed to 37º C in order to liquefy it for application.
6. Pressure to the cover slip after mounting will cause the lipids to run together, obscuring their origin in the tissue
7. Excessive or incomplete counterstaining may compromise the interpretation of the results
8. If unusual results occur, contact PathnSitu Technical Support at +91-40-2701 5544 or E-mail: techsupport@pathnsitu.com

LIMITATIONS AND WARRANTY

Authorized and skilled personnel only may use the product. The clinical interpretation of any test results should be evaluated within the context of the patient's medical history and other diagnostic test results. A qualified pathologist must perform the evaluation of the test results. There are no warranties, expressed or implied, which extend beyond the description. PathnSitu is not liable for property damage, personal injury, time or effort on economic loss caused by this product.

BIBLIOGRAPHY

1. Oil Red O and Hematoxylin: A Rapid Histologic Technic ; roger w. cholewiak', lawrence butcher ~ and neil m. kettlewell; Physiology and Behavior. Vol. 3, pp. 585-586. Pergamon Press, 1968.
2. Manual of Histologic and special staining Techniques; Armed Force institute of Pathology, Washington D.C 1957
3. Proescher ,F. Oil Red O pyridine, a rapid fat stain, Stain Technol. 2:60-61

EXPLANATION OF SYMBOLS

LOT- **Lot number / Batch number**

- **Expiry**

RT- Room Temperature

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