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ProductInformation

Sudan Black B

Product Number **S 0395**
Store at Room Temperature

Product Description

Molecular Formula: $C_{29}H_{24}N_6$
Molecular Weight: 456.6
CAS Number: 4197-25-5
λ_{max} = 596-605 nm[1]
Extinction coefficient: $E^{1\%}$ = 575-630 (596-605 nm, ethanol)
Synonyms: Solvent Black B1, Fat Black HB, Solvent Black 3

Sudan Black B was found to eliminate lipofuscin-like autofluorescence in mammalian neural tissue without adversely affecting other fluorescent labels.[2] It was also found to reduce autofluroescence in archival formaldehyde-fixed paraffin-embedded myocardium tissue.[3]

Sudan Black B was used to detect native and oxidized low density lipoproteins (LDLs) after separation by capillary isotachophoresis (CITP).[4]

It has been used for staining fat in animal tissues and in bacteria (Burdon's method),[5] as well as the lipid portion of lipoprotein in polyacrylamide gel electrophoresis.[6,7,8]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Sudan Black B is soluble in ethanol (10 mg/ml), yielding a dark blue solution. This may require heat for complete solubilization. It is also soluble in acetone, benzene, toluene, hydrocarbon solvents, fats, oils, and paraffins. It is slightly soluble in water (0.1 mg/ml).[9]

Procedure

To stain lipoprotein after polyacrylamide gel electrophoresis:[7,8]

1. Prepare a staining solution of 500 mg Sudan Black B in 20 ml of acetone. This is added to 15 ml of acetic acid, and then added to 85 ml of water.
2. Stir the mixture for 30 minutes and centrifuge to remove the precipitate.
3. Stain gel overnight in this solution.
4. Destain the gels in 3 changes of the following solution: 150 ml of acetic acid, 200 ml of acetone, 650 ml of water.

References

1. Conn's Biological Stains, Lillie, ed., p. 577 (1977).
2. Schnell S. A., et al., Reduction of lipofuscin-like autofluorescence in fluorescently labeled tissue. J. Histochem. Cytochem., **47(6)**, 719-730 (1999).
3. Baschong, W. et al., Control of autofluorescence of archival formaldehyde-fixed, paraffin-embedded tissue in confocal laser scanning microscopy (CLSM). J. Histochem. Cytochem., **49(12)**, 1565-1572 (2001).
4. Zorn, U. et al., Characterization of modified low density lipoprotein subfractions by capillary isotachophoresis. Electrophoresis, **22(6)**, 1143-1149 (2001).
5. Clark, G., Staining Procedures, 4th Ed., (Williams and Wilkins, Baltimore, 1981), pp. 193, 229, 393-394
6. Prat, J.P., et al., [Staining of lipoproteins after electrophoresis in polyacrylamide gel] Bull. Soc. Chim. Biol., **51(9)**, 1367 (1969).

7. Electrophoresis: Theory, Techniques, and Biochemical and Clinical Applications, 2nd ed., ed. A.T. Andrews (Oxford University Press, Oxford, England, 1986), p. 37.
8. Clinica Chimica Acta, **203**, 109-188 (1991).
9. The Sigma-Aldrich Handbook of Stains, Dyes & Indicators, Green, F.J., Ed., Aldrich Chemical Co. (Milwaukee, WI: 1990), p. 660-661.

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