

## Oil red O

**Cat:** IO1720

**Storage:** 2-8°C, 2 years (protect from light)

### Introduction

Oil Red O is a fat-soluble azo dye that is a strong lipid solvent and lipid staining agent that specifically stains neutral triglycerides, lipids, and lipoproteins in tissues and cells. When tissue sections are placed in the staining solution, the dye leaves the solution and dissolves in the lipids (e.g. lipid droplets) within the tissue, causing the lipid droplets to appear red, which is used to analyze the lipid status of cell samples.

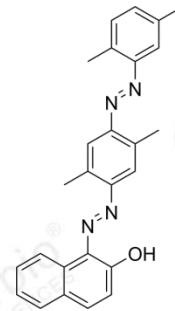
### Parameter

CAS: 1320-06-5

Molecular Formula: C<sub>26</sub>H<sub>24</sub>N<sub>4</sub>O

Molecular Weight: 408.49

Appearance: Brown to black Solid



### Protocols (only for reference)

#### Preparation of oil red O storage solution

Saturated Isopropanol Oil Red O Staining Solution: Take 0.5 g of Oil Red O powder and fully dissolve it in 100mL of Isopropanol.

Note: Unused storage solution can be kept for about 1 year at 2-8°C protected from light.

#### Preparation of oil Red O working fluid

Oil red O reserve solution according to 3:2 (oil red O: distilled water) added distilled water, mix well, room temperature for 5-10 min, filtered and used. The recommendation was to use immediately after dissolution.

### Staining

#### Cell culture

1. Remove cell culture medium, wash twice with PBS and fix in 10% formalin for 20-30 min.
2. Discard the fixative, wash twice with distilled water and add 60% isopropyl alcohol for 20-30 s.
3. Discard 60% isopropanol and add freshly prepared oil red O working solution, immersion dyeing 10-20 min.
4. Discard the staining solution and rinse with 60% isopropyl alcohol for 20-30 s until the mesenchyme is clear. Wash with water 2-5 times until there is no excess staining solution.
5. (Optional) Add hematoxylin staining solution and re-stain the nuclei for 1-2 min. discard the staining solution and wash with water 2-5 times, add PBS and incubate for 1 min, discard.
6. Add distilled water to cover the cells and observe under a microscope.

#### Cell smear

1. Fresh smears were prepared and fixed in 10% formalin for 10-15 min, the smears were removed and dried in air for 10-15 min.
2. Add freshly prepared working solution of oil red O, dip and dye for 15 min. Then added 60% isopropyl alcohol rinse for 20-30 s, rinsed with running water, and slightly wash with distilled water.
3. (Optional) Add hematoxylin staining solution, restain the nuclei for 2 min, add PBS and

incubate for 1 min, observe the staining results under the microscope.

### Slicer

1. Sections were fixed with formaldehyde-calcium for 10 min.
2. Distilled water was washed well, followed by immersion in 60% isopropanol.
3. Oil red O working solution stained for 10 minutes (dyeing solution can be recycled and reused).
4. The 60% isopropanol was differentiated until the mesenchyme was clear and washed with distilled water.
5. (Optional) Add hematoxylin to re-stain for 3-5 minutes and wash with distilled water.
6. Glycerol gelatin sealing and microscopic examination.

### Stained results

Droplet	Orange to bright red
Cell nucleus	Blue
Interstitial	Colorless

### Note

1. Oil red O working solution is unstable, easy to produce precipitation, should not be prepared in advance. The recommendation is to use it as soon as it is prepared.
2. Staining results cannot be stored for a long time and should be observed and photographed as soon as possible.
3. For your safety and health, please wear lab coat and disposable gloves.
4. This product is for scientific research use only. Do not use in medicine, clinical diagnosis or treatment, food and cosmetics. Do not store in ordinary residential areas.

### Related Literature

[1] Liu W, Zeng Y, Hao X, Wang X, Liu J, Gao T, Wang M, Zhang J, Huo M, Hu T, Ma T, Zhang D, Teng X, Yu H, Zhang M, Yuan B, Huang W, Yang Y, Wang Y. JARID2 coordinates with the NuRD complex to facilitate breast tumorigenesis through response to adipocyte-derived leptin. *Cancer Commun (Lond)*. 2023 Oct;43(10):1117-1142. doi: 10.1002/cac2.12479. Epub 2023 Sep 1. PMID: 37658635; PMCID: PMC10565380. (IF: 16.2)

**Note: For more literature, please visit the Solarbio official website.**

### Related Products

*IH0030 Hematoxylin*

*IS0200 Sunset Yellow FCF*

*IS0260 Sudan I*

*IS0960 Sudan III*

*IT0050 Tartrazine*

*IE0280 Evans Blue*

*IA2460 Alcian Blue 8GX*

*IA5140 Alizarin Red S sodium*