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User Manual

OriCell™ Oil Red O Solultion

Catalog No. OILR-10001

We help you discover life

Introduction

OriCell™ Oil Red O Solution is a ready-to-use formulation of a potent, fat-soluble dye. Its staining mechanism relies on physical dissolution and partitioning process. The dye is more soluble in intracellular lipids than in its original solvent. This differential solubility drives the dye to selectively accumulate within and stain lipid droplets, ensuring high-contrast visualization of fat deposits.

OriCell™ Oil Red O Solution is ideal for staining lipid droplets during the adipogenic differentiation of stem cells.

Note: **This product is intended for research use only and is not for diagnostic, therapeutic, clinical, household, or any other applications.**

When citing our products in academic publications, please use the following format: "OriCell™ [Product Name] + [Catalog Number], from Cyagen Biosciences."

Product Stability and Storage Conditions

1. This reagent has a shelf life of 1 year and should be stored at 2–8 °C.
2. The shelf life may be extended if the container remains properly sealed and consistent storage conditions are maintained without frequent temperature fluctuations.
3. Use the reagent before the expiration date. Expired reagents may significantly compromise experimental results.

Oil Red O Staining Analysis

Note: **To prevent lipid droplets from detaching, all steps should be performed as gently as possible.**

1. After the adipogenic induction process is complete, aspirate the differentiation medium from the 6-well plate and wash each well gently 2–3 times with 1× PBS.
2. Add 2 mL of 4% paraformaldehyde solution or 10% formalin solution to each well and fix the cells at room temperature for 30 minutes.
3. Prepare the Oil Red O working solution by mixing OriCell™ Oil Red O Solution (Cat. No.: OILR-10001) with distilled water at a ratio of 3:2.
4. After thorough mixing, centrifuge the mixture at 250 × g for 4 minutes, and use the supernatant for staining.
5. Aspirate the fixative and gently wash 2–3 times with 1 × PBS to ensure complete removal.
6. Add 2 mL of Oil Red O working solution to each well and incubate for 30 minutes at room temperature.
7. Aspirate the staining solution and rinse the wells 2–3 times with 1 × PBS to ensure thorough removal of excess stain.
8. Add 2 mL of 1× PBS to each well and observe the staining results under a microscope.
9. Seal the plate with Parafilm and protect from light. The stained plate can be stored at 4 °C for up to 1 week. Prolonged storage may cause lipid droplets to fuse, altering the original stained morphology.

Oil Red O Staining Results