# LipidLite™ Green Neutral Lipid Stain for Intracellular Imaging

Catalog number: 22728
Unit size: 100 tests

| Component | Storage | Amount (Cat No. 22728) |
|---|---|---|
| LipidLite™ Green Neutral Lipid Stain | Freeze (< -15 °C), Minimize light exposure | 100 tests |

## OVERVIEW

LipidLite™ Green Neutral Lipid Stain for Intracellular Imaging is a fluorescent dye developed for selective detection of intracellular neutral lipid droplets in live as well as formaldehyde-fixed cells. It exhibits bright green fluorescence and binds with high specificity to lipid-rich structures, enabling robust visualization of steatosis and lipid accumulation. This stain is optimized for endpoint workflows in high-content screening (HCS), drug toxicity profiling, and image-based lipid metabolism studies. It requires no wash steps post-staining and is fully compatible with fluorescence microscopes or HCS readers equipped with FITC filter sets. LipidLite™ Green is also suitable for adipogenesis monitoring and multiplexed cell imaging applications.

## AT A GLANCE

1. Prepare cells in growth medium.
2. Fix cells with 4% formaldehyde.
3. Incubate cells with LipidLite™ Green working solution for 30 minutes at RT.
4. Analyze with a fluorescence microscope using a FITC filter set.

## KEY PARAMETERS

**Fluorescence microscope**

| | |
|---|---|
| Emission | FITC filter set |
| Excitation | FITC filter set |
| Recommended plate | Black wall/clear bottom |

## CELL PREPARATION

Seed and treat cells according to experimental design. Adherent cells may be plated in black-wall clear-bottom microplates; non-adherent or primary cells may be prepared on coated plates or coverslips.

**Note:** Each cell line should be evaluated individually to determine the optimal seeding density.

## PREPARATION OF WORKING SOLUTION

**LipidLite™ Green Neutral Lipid Stain Working Solution (1X)**

Dilute LipidLite™ Green 1:1000 in buffer of your choice (PBS or assay buffer). 10 mL working solution is enough for a 96 well plate.

**Note:** For adipogenesis assays, 1:200 dilution may be tested.

**Note:** Aliquot any unused stock solution into single-use vials and store at ≤ -15°C. Protect from light and minimize freeze-thaw cycles to maintain stability.

## SAMPLE EXPERIMENTAL PROTOCOL

1. Prepare and treat cells as needed.
2. Remove culture medium and add 100 µL of 4% formaldehyde solution to completely cover the cells.
3. Incubate for 10–30 minutes at room temperature to fix the cells.
4. Remove the fixative and wash the cells 2–3 times with PBS or assay buffer to remove formaldehyde.
5. Add 100 µL/well of 1X LipidLite™ Green working solution to cover the cells.
6. Incubate the cells with the stain for at least 30 minutes at room temperature, protected from light.
   **Note:** Do not wash after staining.
7. Analyze stained lipid droplets using a fluorescence microscope equipped with a FITC filter set.

## EXAMPLE DATA ANALYSIS AND FIGURES

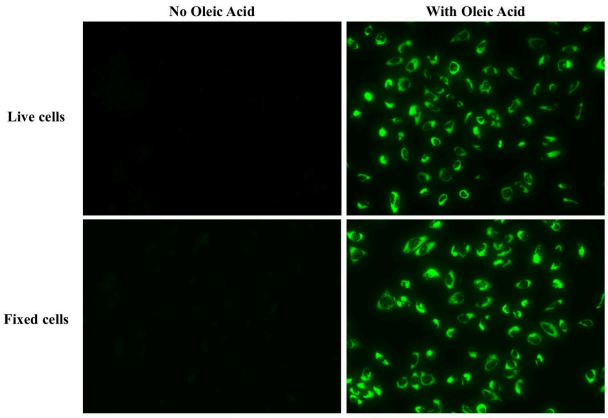


**Figure 1.** Fluorescence images of intracellular lipid droplets in control (left) and oleic acid-treated HeLa cells (right) stained with LipidLite™ Green Neutral Lipid Stain. HeLa cells were incubated with 100 µM oleic acid for 24 hours to induce intracellular lipid droplet formation. After washing with PBS, cells were labeled with LipidLite™ Green Neutral Lipid Stain and images were acquired using a FITC filter set. Top: live cells; Bottom: 4% PFA-fixed cells.

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