emulate

Protocol for Emulate Organ-Chips:

Live Staining of Lipid Droplets Using Nile Red

April 7, 2019

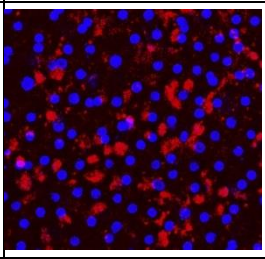
EP149 v1.0

Goals:	Key Steps:	Other Required Materials:
Visualize lipid droplets in Organ-Chips	• Live staining and fluorescent imaging in Organ-Chips	• Nile red (Invitrogen™ N1142) • Cell culture medium • Fluorescence microscope Optional: • PBS • 4% paraformaldehyde (PFA) • Fluorescence microscope

1. Background

Nile red is used to localize and quantify lipids, particularly neutral lipid droplets within cells.

2. Method

Sample type	Live Organ-Chip See Protocol EP155 Live Staining of Cells.
Recommended reagent dilution and incubation time	Nile Red (Invitrogen™ N1142) Prepare 30 mM stock in DMSO. Dilute 1:3000 in cell culture medium. Incubate for 30 minutes at room temperature.
Fixative (optional)	Chips can be fixed immediately after staining: 4% PFA for 15 minutes at room temperature. See Protocol EP137 Fixation and Immunofluorescence (IF) Staining.
Representative image	 Image of Nile red staining showing lipid droplets (red) / nuclei staining (blue) indicating presence of lipid droplets in hepatocytes in the human Liver-Chip (top channel)
More information on vendor site	https://www.thermofisher.com/order/catalog/product/N1142