



emulate

Protocol for Emulate Organ-Chips:

Live Staining of Reactive Oxygen Species Using
CellROX®

April 4, 2019

EP142 v1.0


TITLE Live Staining of Reactive Oxygen Species Using CellROX®	DOC. EP142	VERSION 1.0
	DATE 04-APR-2019	PAGE 2 OF 3

Goals:	Key Steps:	Other Required Materials:
Visualize reactive oxygen species (ROS) via fluorescent imaging in live Organ-Chip	<ul style="list-style-type: none"> Live staining and fluorescent imaging in Organ-Chips 	<ul style="list-style-type: none"> CellROX® Deep Red Reagent (Thermo Scientific™ 10422) or CellROX® Green Reagent (Thermo Scientific™ C10444) Cell culture media Fluorescence microscope Optional <ul style="list-style-type: none"> PBS 4% paraformaldehyde (PFA)

1. Background

CellROX® is a fluorogenic probe for detecting cellular oxidative stress in live cells.

2. Method

Sample type	Live Organ-Chip See Protocol EP155 Live Staining.
Recommended reagent dilution and incubation time	Dilute 1:500 in cell culture media. Incubate for 30 minutes at 37°C.
Fixative (optional)	<p>Chips can be fixed immediately after staining: 4% PFA for 15 minutes at room temperature.</p> <p>The signal remains for up to 2-hours after fixation for reagent C10422, and up to 3-days for reagent C10444.</p> <p>Note: Do not fix cells before CellROX® staining.</p> <p>See Protocol EP137 Fixation and Immunofluorescence (IF) Staining.</p>
Representative image	 <p>Image of the reactive oxygen species stained by CellROX® Deep Red reagent (cyan) in human hepatocytes treated with a compound in the Liver-Chip.</p>
More information on vendor site	https://www.thermofisher.com/order/catalog/product/C10422

TITLE	DOC.	VERSION
Live Staining of Reactive Oxygen Species Using CellROX®	EP142	1.0
	DATE	PAGE
	04-APR-2019	3 OF 3

3. Organs-Chips in which the staining has been validated

CellROX® Deep Red Reagent (Thermo Scientific™ C10422) has been validated on Liver-Chips.

CellROX® Green Reagent (Thermo Scientific™ C10444) has been validated on Caco-2 Intestine-Chips.

Note: We recommend using the aforementioned reagents for each organ model to achieve best results.

© Emulate, Inc., 2019. All rights reserved.

Zoe™, Zoe-CM1™, Pod-1™ and Chip-S1™ are trademarks of Emulate, Inc.

CellROX® is a trademark of Life Technologies, Inc.

The technology disclosed in this document may be covered by one or more patents or patent applications owned by or licensed to Emulate, Inc. No license is granted herein. Further information is available by contacting Emulate.