Elite™ Intracellular Total ROS Activity Assay Kit (Green Fluorescence)

CATALOG NUMBER: CA-R900, 200 assays

Description

Reactive oxygen species (ROS) are key mediators cellular signaling and homeostasis. However, under oxidative stress, ROS levels can rise dramatically, leading to damage of cellular components. Elevated ROS has been implicated in a wide range of pathologies, including cardiovascular disease, diabetes, neurodegeneration, cancer, and inflammatory conditions.

The Elite™ Intracellular ROS Assay Kit enables sensitive, one-step quantification of intracellular ROS-particularly hydrogen peroxide-in live cells. The proprietary **Elite™ ROS Green** dye is cell-permeable and fluoresces upon reaction with ROS, allowing direct visualization and quantification via fluorescence microscopy or plate reader (Ex/Em = 490/520 nm). The assay is optimized for high-throughput screening (HTS) and compatible with 96 and 384-well formats.

Key Features

- Sensitive & specific: Detects intracellular ROS with high signal-to-noise ratio
- Rapid protocol: One-hour incubation, no wash steps required
- HTS-ready: Compatible with automated liquid handling systems
- Flexible readout: Fluorescence microplate reader or microscope

Kit Components

Component	Description	Quantity
A	Elite™ ROS Green	1 vial
B	Assay Buffer	20 mL
C	DMSO	200 µL

Storage:

- Component A: -20 °C, protected from light
- Component B&C: 4 °C
- Shelf life: 6 months from receipt when stored properly

Tel: 1-800-919-0755 • Fax: 1-240-683-5852 • info@eEnzyme.com • www.eEnzyme.com

Assay Workflow (for 96-Well Plate)

1. **Cell Preparation**
   - Adherent cells: Seed 10,000-40,000 cells/well in 100 µL growth medium
   - Suspension cells: Resuspend 50,000-100,000 cells/well in poly-D-lysine-coated plates
2. **Stain Preparation**
   - Reconstitute Component A with 40 µL DMSO (Component C) to make 500x stock
   - Dilute 20 µL of stock into 10 mL Assay Buffer (Component B) to prepare stain solution
3. **Cell Staining**
   - Add 100 µL/well of stain solution
   - Incubate at 37°C, 5% CO_2 for 1 hour
4. **ROS Inductionn & Measurement**
   - Add 20 µL of 11X test compound solution per well
   - Incubate for 15-30 minutes (e.g., 1 mM H_2O_2 for 30 min in Hela cells)
   - Measure fluorescence at Ex/Em = 490/525 nm (cut off = 515nm) using bottom-read mode using FlexStation (Molecular Devices)

Representative Data

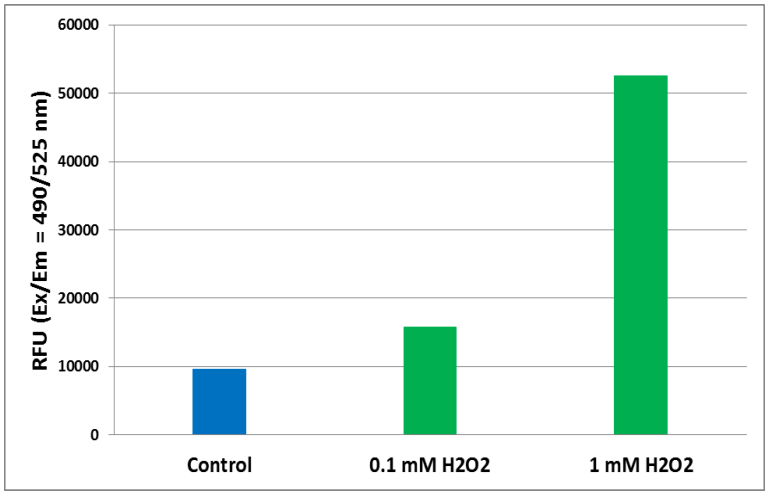

Figure 1. Jurkat cells treated with 0.1 mM and 1 mM H_2O_2 show dose-dependent increases in fluorescence intensity, confirming ROS induction. Assay readout is linear and reproducible across replicates.