ROS-ID® Total ROS detection kit
ENZ-51011
Widely cited kit to measure global levels of ROS in live cells

Product Details

ALTERNATIVE NAME: Reactive oxygen species
APPLICATIONS: Flow Cytometry, Fluorescence microscopy, Fluorescent detection, HTS
APPLICATION NOTES: This kit is designed to directly monitor real time reactive oxygen and/or nitrogen species (ROS/RNS) production in live cells using fluorescence microscopy and/or flow cytometry.
QUALITY CONTROL: A sample from each lot of ROS-ID® Total ROS detection kit is used to stain HeLa cells using the procedures described in the user manual. The stained cells are analyzed using a wide-field fluorescence microscope equipped with standard green filter (490/525 nm).

QUANTITY: 200 fluorescence microscopy assays or 50 flow cytometry assays.
USE/STABILITY: With proper storage, the kit components are stable up to the date noted on the product label. Store kit at -20°C in a non-frost free freezer, or -80°C for longer term storage.
HANDLING: Protect from light. Avoid freeze/thaw cycles.
SHIPPING: Dry Ice
SHORT TERM STORAGE: -20°C
LONG TERM STORAGE: -80°C
CONTENTS: Oxidative Stress Detection Reagent (Green), 300 nmole ROS Inducer (Pyocyanin), 1 umole ROS Inhibitor (N-acetyl-L-cysteine), 2 x 10 mg Wash Buffer Salts, 1 pack

TECHNICAL INFO/PRODUCT NOTES: The ROS-ID® Total ROS detection kit is a member of the CELLESTIAL® product line, reagents and assay kits comprising fluorescent molecular probes that have been extensively benchmarked for live cell analysis applications. CELLESTIAL® reagents and kits are optimal for use in demanding imaging applications, such as confocal microscopy, flow cytometry and HCS, where consistency and reproducibility are required.

Application Note:
REGULATORY STATUS: RUO - Research Use Only

Figure 1. Jurkat cells were induced with 100&micro;M pyocyanin (general ROS inducer, panel A), or 1 &micro;M of t-butyl-hydroperoxide (peroxide inducer, panel B), stained with Total ROS Detection Reagent and analyzed using flow cytometry. Untreated cells were used as a control. Cell debris were ungated. The numbers in the inserts reflect the mean green fluorescence of the control and treated cells.

Product Literature References
FOXM1 network in association with TREM1 suppression regulates NET formation in diabetic foot ulcers A.P. Sawaya, et al. EMBO Rep. 23 e54558 (2022)
Increased clearance of non-biodegradable polystyrene nanoplastics by exocytosis through inhibition of retrograde intracellular transport S.W. Han, et al. J. Hazard. Mater. 439 129576 (2022)

Antitumor effects of low-dose tipifarnib on the mTOR signaling pathway and reactive oxygen species production in HIF-1α-expressing gastric cancer cells N. Egawa, et al. FEBS Open Bio. 11 1465 (2021)


Modulation of alveolar macrophage innate response in proinflammatory-, pro-oxidant-, and infection- models by mint extract and chemical constituents: Role of MAPKs N. Yadav & H. Chandra Immunobiology 223 49 (2017)


ASCT2 (SLC1A5) is an EGFR-associated protein that can be co-targeted by cetuximab to sensitize cancer cells to ROS-induced apoptosis H. Lu, et al. Cancer Lett. 381 23 (2016)


Natural compound Alternol induces oxidative stress-dependent apoptotic cell death preferentially in prostate cancer cells


Maternal obesity programs offspring nonalcoholic fatty liver disease by innate immune dysfunction in mice


Quercetin reduces oxidative damage induced by paraquat via modulating expression of antioxidant genes in A549 cells


Rutin Suppresses Palmitic Acids-Triggered Inflammation in Macrophages and Blocks High Fat Diet-Induced Obesity and Fatty Liver in Mice


Deoxycholic acid causes DNA damage while inducing apoptotic resistance through NF-{kappa}B activation in benign Barrett’s epithelial cells


Depletion of cytosolic or mitochondrial thioredoxin increases CYP2E1-induced oxidative stress via an ASK-1-JNK1 pathway in HepG2 cells


Enhancement of the radiation effects by D-allose in head and neck cancer cells


Formation of TiO2 Nanostructures by Enzyme-Mediated Self-Assembly for the Destruction of Macrophages


Protective effects of cynaroside against H2O2-induced apoptosis in H9c2 cardiomyoblasts


CYP2E1 enhances ethanol-induced lipid accumulation but impairs autophagy in HepG2 E47 cells


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