New

LIFE SCIENCE

TCI

Intracellular Reactive Oxygen Species (ROS) Detection Assay Kit

Intracellular Reactive Oxygen Species (ROS) Detection Assay Kit

1kit [I1265]

Advantages

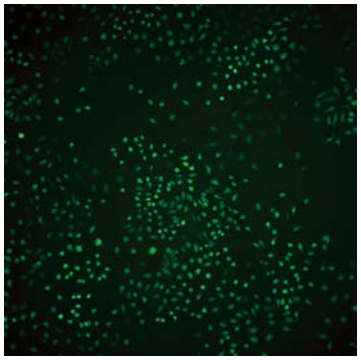
- Detects intracellular ROS sensitively and rapidly
- Allows for various imaging and detection methods
- Applicable to a wide variety of cells

Kit Components

- 1000×Reaction Dye (DCFH-DA) : 10 µL — for **100** tests
- 10×Reaction Buffer : 25 mL×2 — for **100** tests

† For microplate assays: 96 wells
† For flow cytometry: 1 mL/test for 1×10^6 cells/mL
† Optimal Reaction Dye working concentration may vary by cell lines.

Application: Fluorescence Microscopy Observation



ROS observed in HeLa cells

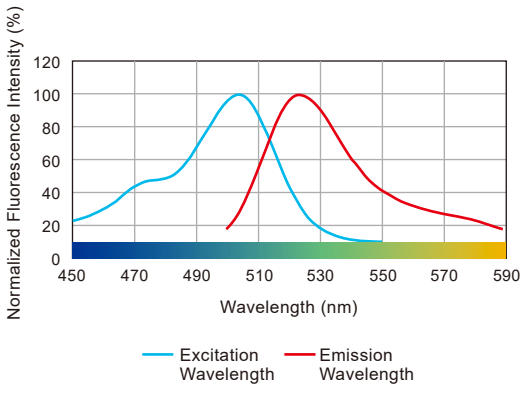
[Detection Conditions]
GFP filter
Excitation wavelength: 450 - 490 nm
Emission wavelength: 500 - 550 nm

[1×Reaction Dye Preparation]

- 10×Reaction Buffer 100 µL
- 1000×Reaction Dye 1 µL
- Deionized water 900 µL

When the confluency of preseeded HeLa cells reached 80%, the culture media was removed, replaced with 1×Reaction Dye, and allowed to incubate for 30 minutes in CO_2 incubator (37°C), intracellular ROS observation was carried out on a fluorescence microscopy.

Absorbance and Fluorescence Spectra



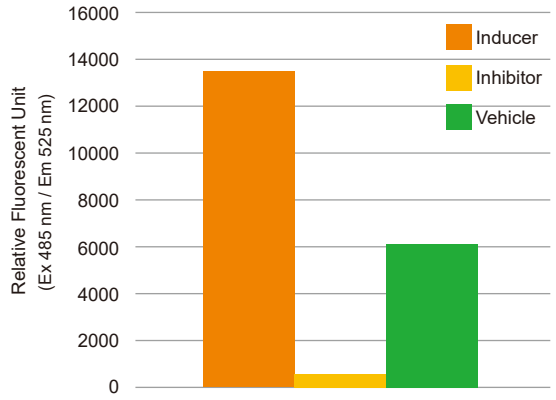
[Detection Conditions]

When the confluency of preseeded HeLa cells reached 80%, the culture media was removed, replaced with 1×Reaction Dye, and allowed to incubate for 30 minutes in CO_2 incubator (37°C). The excitation and emission spectra were then measured.

Maximum excitation wavelength: 503 nm
Maximum emission wavelength: 524 nm

Intracellular Reactive Oxygen Species (ROS) Detection Assay Kit

Application: Fluorescence Microplate Reader



ROS detected in NIH-3T3 cells

[Detection Conditions]

Excitation wavelength: 450 - 490 nm
Emission wavelength: 500 - 550 nm

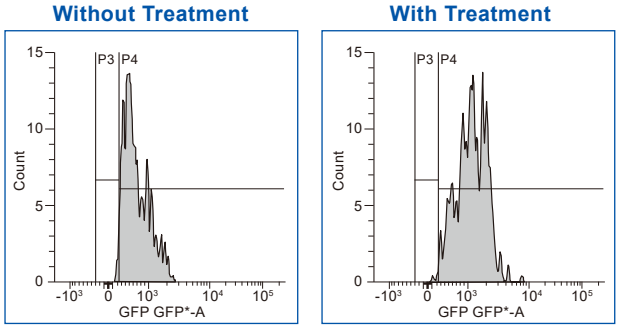
[1×Reaction Dye Preparation]

- **1000×Reaction Dye** **1 µL**
- **10×Reaction Buffer** **100 µL**
- **Deionized water** **900 µL**

When the confluency of preseeded NIH-3T3 cells were reached 80%, the culture media was removed and replaced with fresh media either containing or without a ROS Inducer. After cells were allowed to incubate in a CO_2 incubator (37°C) overnight. A sample of cells was adiditionally treated with a ROS Inhibitor for 30 minutes. Finally, all cells were treated with 1×Reaction Dye in CO_2 incubator (37°C) for 30 minutes and tested intracellular ROS on a plate reader. The intracellular ROS production was confirmed to be induced by inducer and inhibited by inhibitor.

Reagent Concentration	Inducer	Inhibitor	Vehicle
ROS Inducer: 1mM Erastin [E1524]	+	+	-
ROS Inhibitor: 5mM *N*-Acetyl-L-cysteine [For ROS inhibition] **[A3682]**	-	+	-

Application: Flow Cytometry



ROS detected in NIH-3T3 cells

[Detection Conditions]

GFP filter
Excitation wavelength: 488 nm
Emission wavelength: 520 nm

[1×Reaction Dye Preparation]

- **1000×Reaction Dye** **1 µL**
- **10×Reaction Buffer** **100 µL**
- **Deionized water** **900 µL**

After having reached 80% confluency, NIH-3T3 cells were treated with 1 mM Erastin **[E1524]** and incubated in a CO_2 incubator (37°C) overnight. Cells were collected and treated with 1×Reaction Dye for 30 minutes in a CO_2 incubator (37°C) and analyzed by flow cytometry. Intracellular ROS production was induced by Erastin **[E1524]**.

Related Products

***N*-Acetyl-L-cysteine** [For ROS inhibition]	10mg / 50mg **[A3682]**
Erastin	5mg **[E1524]**

Ordering and Customer Service

TCI AMERICA
Tel : 800-423-8616 / 503-283-1681
Fax : 888-520-1075 / 503-283-1987
E-mail : Sales-US@TCIchemicals.com

TCI EUROPE N.V.
Tel : +32 (0)3 735 07 00
Fax : +32 (0)3 735 07 01
E-mail : Sales-EU@TCIchemicals.com

TCI Deutschland GmbH
Tel : +49 (0)6196 64053-00
Fax : +49 (0)6196 64053-01
E-mail : Sales-DE@TCIchemicals.com

Tokyo Chemical Industry UK Ltd.
Tel : +44 (0)1865 78 45 60
E-mail : Sales-UK@TCIchemicals.com

梯希爱(上海)化成工业发展有限公司
Tel : 800-988-0390 / 021-67121386
Fax : 021-6712-1385
E-mail : Sales-CN@TCIchemicals.com

Tokyo Chemical Industry (India) Pvt. Ltd.
Tel : 1800 425 7889 / 044-2262 0909
E-mail : Sales-IN@TCIchemicals.com

TOKYO CHEMICAL INDUSTRY CO., LTD.
Tel : +81 (0)3-5640-8878
E-mail : globalbusiness@TCIchemicals.com