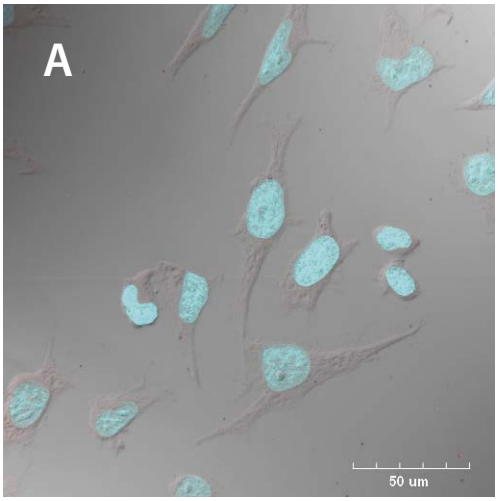
LIFE SCIENCE

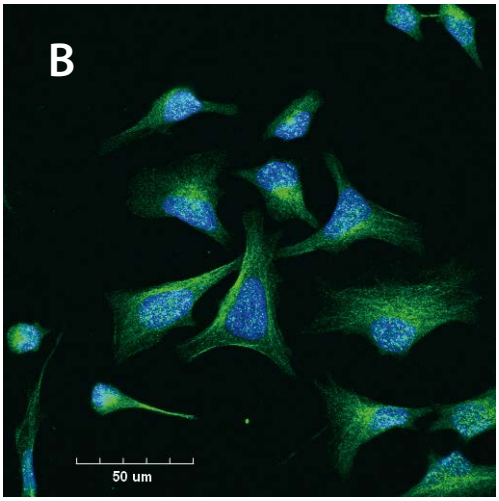
# Cell Imaging Reagents

## Fluorescent Stains

**DAPI·2HCl** [for Biochemical Research] (Blue Fluorescence) 5mg [A2412]
**Goat Anti-Mouse IgG FITC Conjugate** (Green Fluorescence) 0.1mg/1vial [G0406]

### Application




(A) HeLa cells nuclei stained with 1 μg/mL **A2412** (Blue).
(B) The HeLa cells were incubated with the Mouse Anti α-Tubulin Antibody, followed by staining with the secondary antibody **G0406** (Green) at 10 μg/mL. **A2412** was used to stain the cell nuclei (Blue) at a concentration of 1 μg/mL.

Laser Scanning Microscope: Olympus FLUOVIEW FV 3000

### Related Products

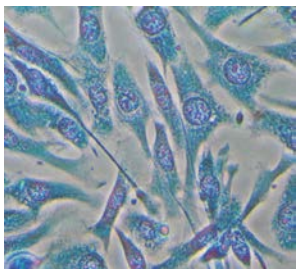
**Goat Anti-Rabbit IgG FITC Conjugate** (Green Fluorescence) 0.1mg/1vial [G0452]
**Goat Anti-Mouse IgM FITC Conjugate** (Green Fluorescence) 0.1mg/1vial [G0453]
**Streptavidin FITC Conjugate** (Green Fluorescence) 0.1mg/1vial [S0966]
**Goat Anti-Mouse IgG DTBTA-$Eu^{3+}$ Conjugate** (Red Fluorescence) 0.1mg/1vial [G0505]
**Goat Anti-Rabbit IgG DTBTA-$Eu^{3+}$ Conjugate** (Red Fluorescence) 0.1mg/1vial [G0506]
**Streptavidin DTBTA-$Eu^{3+}$ Conjugate** (Red Fluorescence) 0.1mg/1vial [S0993]
**ATBTA-$Eu^{3+}$** [DTBTA-$Eu^{3+}$ Labeling Reagent] (Red Fluorescence) 10mg [A2083]
**Bisbenzimide H 33258 Hydrate** [for Biochemical Research] (Blue Fluorescence) 25mg [H1343]

# Staining Dye Solution

## Methylene Blue Solution (Methanol Solution) [for Cell Staining] 100mL [M2392]

### Application

(1) Culture cells in a 6-well plate
(2) Remove medium from the plate and wash it with PBS(-) twice
(3) Remove PBS(-) from it, add 1mL of **M2392** and stain cells for 15 minutes
(4) Remove **M2392** from it and wash it with deionized water twice



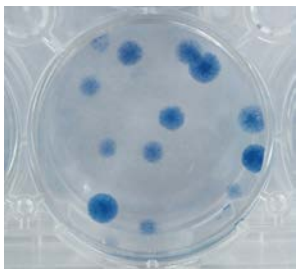


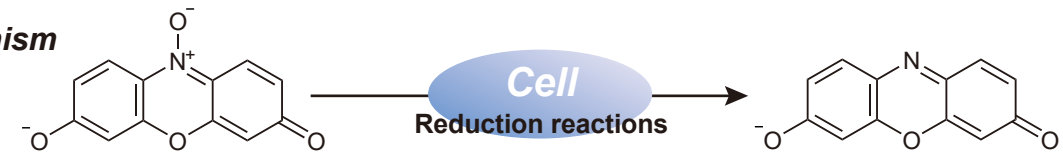
Figure. NIH/3T3 cells stained by the above method

Please adjust staining time and volume according to cells. Because some cells need to be fixed separately, preliminary tests should be performed.

# Cell Proliferation Assay Reagents

## Resazurin (Ready-to-use solution) [for Cell proliferation assay] 25mL [R0195]

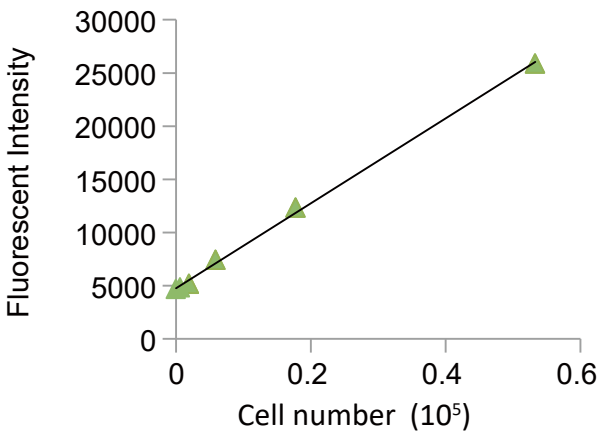
***Mechanism***




*Ex* 540-570nm / *Em* 590nm

Resazurin can be used quantitatively determine cell proliferation, viability, and cytotoxicity.
Resazurin, when added to viable cells, is reduced by the cellular enzymatic or chemical reactions converting blue/non-fluorescent resazurin to highly fluorescent resorufin.
The assay is simple to perform since the indicator is water-soluble and has low toxicity, thus eliminating the washing/fixing and extraction steps required in other commonly used cell proliferation assays.

***Cell viability assay***




### Application

1. Add **R0195** at a volume equal to 10% of the cell culture media volume.
2. Return cells to the incubator and continue the incubation for 2-24 hours*.
3. Measure the fluorescent intensity using 540-570 nm excitation and 590 nm emission wavelengths. Absorbance can be measured using a spectro-photometer set at 570 nm.

Resazurin may be added at any time point during the culture period. For measurement of cell proliferation, it is best to add resazurin during the log phase of growth.

# Substrates for Reporter Assays

## Chromogenic Substrates for β-Galactosidase

### Generating insoluble dye

**X-Gal** 200mg / 1g [B3201]
(5-Bromo-4-chloro-3-indolyl β-D-Galactopyranoside) blue

**Magenta-Gal** 20mg / 100mg [B3469]
(5-Bromo-6-chloro-3-indolyl β-D-Galactopyranoside) red-purple

**Bluo-Gal** 20mg / 100mg [B3470]
(5-Bromo-3-indolyl β-D-Galactopyranoside) dark-blue

**Salmon-Gal** 20mg / 100mg [C2371]
(6-Chloro-3-indolyl β-D-Galactopyranoside) bright red-purple

### Generating soluble dye

**ONPG** 1g / 5g / 25g [N0418]
(2-Nitrophenyl β-D-Galactopyranoside) yellow

**PNPG** 1g / 5g [N0616]
(4-Nitrophenyl β-D-Galactopyranoside) yellow

## Chromogenic Substrates for β-Glucronidase

### Generating insoluble dye

**X-Gluc CHA Salt** 10mg / 100mg [B3620]
(5-Bromo-4-chloro-3-indolyl β-D-Glucuronide Cyclohexylammonium Salt) blue

**X-Gluc Sodium Salt** 10mg / 100mg [B3621]
(5-Bromo-4-chloro-3-indolyl β-D-Glucuronide Sodium Salt) blue

## Chemiluminescent Substrates for Luciferase

**D-(-)-Luciferin** 10mg / 50mg [A5030]
**CLA** 10mg [A5307]
**MCLA** 10mg [A5309]
**FCLA Free Acid** 10mg [A5310]
**Red-CLA** 1mg [A5311]

# Chemiluminescence Reagent for the Detection of Superoxide

**Lucigenin** 1g / 5g [B1203]

**MMT** [= 10,10'-Dimethyl-9,9'-biacridinium Bis(monomethyl Terephthalate)] 100mg / 1g [B4339]

**MMT (B4339) is a specific probe having lucigenin-like chemiluminescence to superoxide among reactive oxygen species. Since amphiphilic MMT which is less hydrophilic than lucigenin possesses cell-permeability, MMT has been applicable for the detection of intramitochondrial superoxide production.**

## Application

**Figure shows the localization of MMT in mitochondria.**


A: MMT (Green Fluor.) B: Staining of Mitochondria (Red Fluor.) C: Merge

**Figure. Fluorescence in mitochondria in mouse peritoneal neutrophils. (Provided by Prof. Kobayashi)**

S. Sasaki, S. Yamada, M. Iwamura, Y. Kobayashi, *Free Radic. Biol. Med.* **2013**, *65*, 1005.

For further information please refer to our website at www.TCIchemicals.com. ▶▶▶ staining or substrate or chemiluminescence

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