interchim

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FRONTIERS IN LIFE SCIENCE

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# CytoSeeing <Reversible Cytoplasm Blue>

## Product Background

Examining morphology of the cells is essential for cell culture, cell differentiation process, cell functions and signal responses. A variety of small-molecule synthetic fluorescence probes have been developed for live cell imaging, however, once inside cells, most of probes for cytoplasmic specific visualization are retained in living cells through several generations. The cells, which are stained by irreversible probes, are difficult to be applied for other biological analysis.
The CytoSeeing is an innovative fluorescence probe which enable us to visualize nuclear and cytoplasmic morphology with a rapid and simple method. The CytoSeeing promptly passes through cell membranes under a condition of cell culture medium and can be easily removed after observation by washing for subsequent biological assay. The CytoSeeing showed high fluorescence at cytoplasmic area, not staining nuclear, therefore, the CytoSeeing can visualize nuclear boundary. The CytoSeeing is a useful tool to probe various cell morphology briefly.

## Description

**Catalog Number:** FDV-0017
**Lot Number:** see vial label
**Size:** 1 mg
**Chemical name:** 2-(biphenyl-4-yl)pyrazolo[1,2-a][1,2,3]triazol-8-ium-1-ide
**Molecular formula:** $C_{17}H_{12}N_3$
**Molecular weight:** 258.11
**Solubility:** Soluble in Dimethyl Sulfoxide (DMSO)
**Purity:** ≧97%
**Ex/Em:** 345 nm / 456 nm
**License:** This product has been commercialized under a license from Hokkaido University.
**Warning:** Research use only. Not for use in humans.

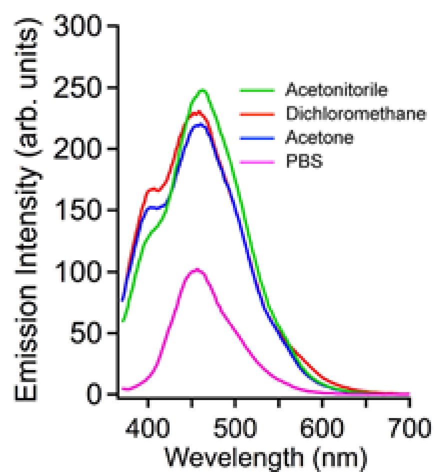
## Reconstitution and Storage

**Reconstitution:** Reconstitute at 10 mM as a stock solution in Dimethyl Sulfoxide (DMSO).
**Storage:** Store at -20℃.

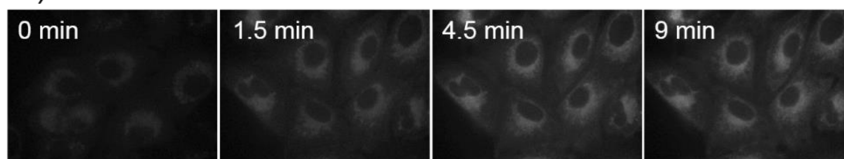
## Instruction

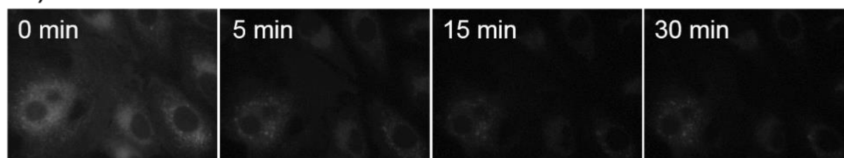
**1.** Plate your cells with appropriate cell density.
**2.** Dilute a CytoSeeing stock solution in an appropriate medium.
**3.** Apply diluted CytoSeeing to cells at a final concentration of 10 to 50 μM.
**4.** Incubate cells for a few minutes under growth conditions appropriate for the particular cell type.
**5.** Examine the specimen under microscope with DAPI filter sets.

## Figure




Fluorescence emission spectra of CytoSeeing (10 μM) in aqueous and organic solvents.

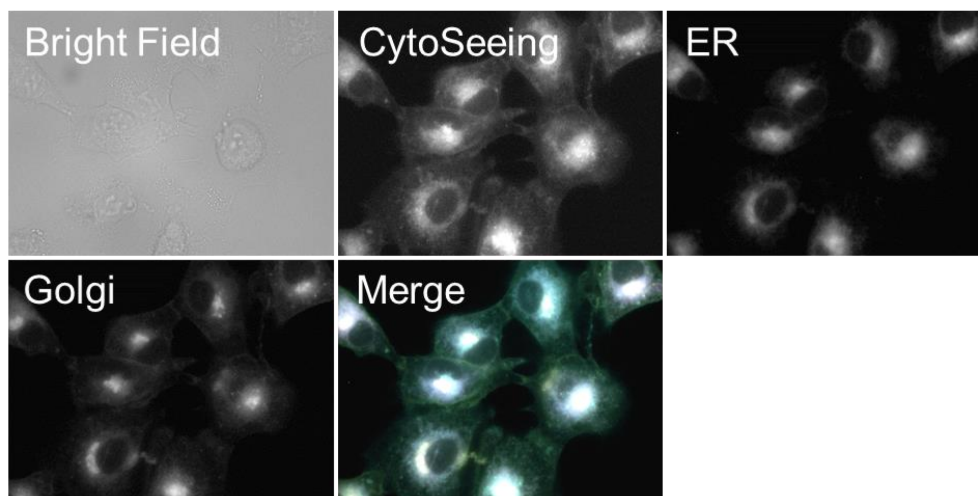



**Time-dependent incorporation and distribution of CytoSeeing in A549 cells.**

a) Luminescence images of A549 cells incubated with 10 μM CytoSeeing for the indicated time periods.

b) After incubation with 10 μM CytoSeeing for 30 min, the cells were washed and then incubated in fresh medium without CytoSeeing (time 0 min).




**Co-staining with Golgi apparatus and ER probes in A549 cells.**

A549 cells were stained with a Golgi apparatus probe and ER probe, followed by treatment with 50 μM CytoSeeing for 30 min. and then observed by fluorescence microscopy. Merged image was constructed with images of CytoSeeing (cyan), Golgi apparatus probe (yellow), and ER probe (magenta).

## Reference

1) Kamada R., *et al.*, PLOS ONE, 11: e0160625, 2016.

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