

BioTracker™ CyP AP Live Cell Dye



Live Cell Dye

Cat. # SCT046

pack size: 1mg

FOR RESEARCH USE ONLY.
NOT FOR USE IN DIAGNOSTIC PROCEDURES.
NOT FOR HUMAN OR ANIMAL CONSUMPTION.

Store at -20°C

Data Sheet

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Background

Alkaline Phosphatase (AP) catalyzes the hydrolysis of the phosphate group in alkaline media. AP is an essential enzyme and widely distributes in a variety of tissues such as liver, intestine, kidney, bone, and placenta. Abnormal AP levels have been shown in numerous cancers, bone disease and liver dysfunction. AP is also expressed by pluripotent stem cells such as ES and IPS cells.

The BioTracker™ CyP AP dye is a live cell near-infrared (NIR) fluorescent imaging probe for alkaline phosphatase. With its long emission wavelength, the probe is suitable for monitoring AP levels in both *in vivo* and *in vitro* tissues and cells. The probe possesses deep tissue penetration, less damage to the biological samples, and lower interference from the background fluorescence compared to other AP probes.



Figure 1. CyP AP mechanism. AP-catalyzed cleavage of the phosphate group in CyP AP induces the transformation of CyP into CyOH, which emits fluorescence in the near-infrared spectrum.

Storage

Store BioTracker™ CyP AP Live Cell Dye at -20°C, desiccate and protect from light

Note: Centrifuge vial briefly to collect contents at bottom of vial before opening.

Spectral Properties

Absorbance: 690nm
Emission: 738nm

Quality Control

Purity: ≥ 98% confirmed by HNMR, LC-MS and HPLC and elemental analysis
Molar Mass: 528.55 g/mol

Protocol

Reagent Preparation

1. Before opening the vial, spin down the solid to the bottom by a microcentrifuge or by a desktop centrifuge.
2. Warm the vial to the room temperature and add DMSO to make a 1000X stock solution of 10-20 mM (freeze aliquots at -20°C).
3. Dilute in cell culture media at a final concentration of 10-20 μM and add to cells in culture. Incubate at 37°C for 15 minutes.
4. Wash cells with PBS buffer before imaging

Note: Optimal concentration must be determined by end user.

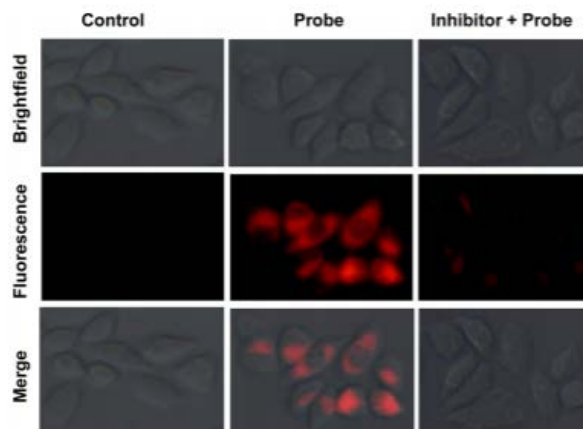


Figure 2. Intracellular localization of CyP AP in HeLa cells (+/- AP Inhibitor).

References

Nie SX et al. *Facile and Sensitive Near-Infrared Fluorescence Probe for the Detection of Endogenous Alkaline Phosphatase Activity In Vivo.* Anal Chem. 2017 Jun 20;89(12):6854-6860.

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