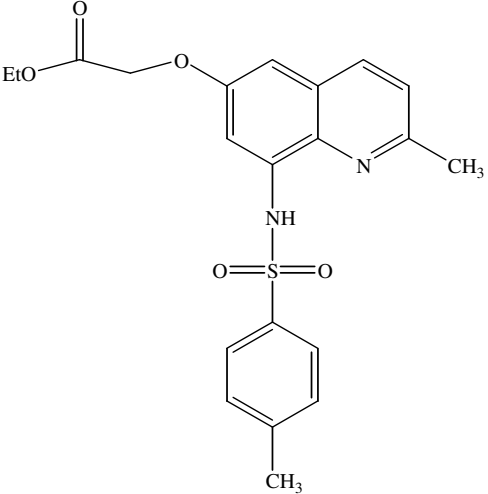


### Instruction Manual

Catalog Number	PK-CA707-52020
Description	Zinc is believed to be involved in the suppression of apoptosis and play important roles in many neural activities. Zinquin is an UV-excitabile fluorescent zinc indicator. Zinquin ethyl ester is membrane-permeable and is hydrolyzed into Zinquin free acid once entering cells. Zinquin ethyl ester is an analog of the widely used indicator TSQ. Though Zinquin ethyl ester itself is fluorescent, its fluorescence intensity is negligibly weak (1/30). Zinquin ethyl ester is membrane permeable, as are acetoxymethyl esters of calcium probes such as Fura-2 AM and Fluo-3 AM. Zinquin ethyl ester is thus useful to detect intracellular zinc ions. It forms a complex with a zinc ion with nitrogen atoms in the structure. This compound also forms a fluorescent complex with cadmium ion; however, detectable amounts of cadmium ions are not contained in normal living cells. Because the water solubility of Zinquin ethyl ester is poor, dimethylsulfoxide (DMSO) or ethanol is required as a solvent for preparing the stock solution.
Quantity	5 mg
Excitation / Emission Maxima	$\lambda_{ex}\lambda_{em} = 364/485 \text{ nm}$
Molecular Structure	
Molecular Weight / Molecular Formula	414.48 Da; C <sub>21</sub> H <sub>22</sub> N <sub>2</sub> O <sub>5</sub> S
Purity	>95% (as determined by HPLC)
Appearance / Formulation / Solubility	Off-white solid; soluble in DMSO.
Storage & Stability	Stored desiccated at $\leq 4^{\circ}\text{C}$ upon receipt. Protect from light, especially when in solution.
Intended Use	For in vitro research use only. Not for diagnostic or therapeutic procedures.
Applications	<p>General Protocol for Lymphoblastoid Cells*</p> <p>Reagents: 2.4 mM Zinquin ethyl ester stock solution (1 mg Zinquin ethyl ester in 1 ml DMSO). Zinquin ethyl ester stock solution is stable for 1 month at <math>-20^{\circ}\text{C}</math>.</p> <p>Protocol:</p> <ol style="list-style-type: none"> <li>1. Suspend cells in Hanks-balanced salt solution (HBSS) to prepare <math>5-10 \times 10^6</math> cells/ml medium</li> <li>2. Add Zinquin ethyl ester stock solution to the cell suspension to prepare 2.4 mM Zinquin ethyl ester (1/1000 vol of the cell suspension) as the final concentration</li> <li>3. Incubate the cell suspension at <math>37^{\circ}\text{C}</math> for 30 minutes</li> <li>4. Wash the cells 3 times with HBSS, and then prepare <math>2-5 \times 10^6</math> cells/ml of cell suspension</li> <li>5. Determine the fluorescence intensity of each cell using a fluorescence microscope or a confocal laser microscope coupled with an image analyzer</li> </ol> <p>* Cell staining conditions differ by cell type, so it is necessary to optimize the conditions for each experiment.</p>

<b>References</b>	1) Biochem. J. 303, 781(1994) 2) Biochem. J. 296, 403(1993)
<b>Caution</b>	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.

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