Mag-Indo-1 tetrapotassium salt

Cat. No.: HY-W127843

CAS No.: 132299-21-9

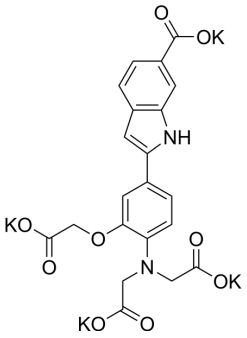
Molecular Formula: $C_{21}H_{14}K_4N_2O_9$

Molecular Weight: 594.74

Target: Fluorescent Dye

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Mag-Indo-1 tetrapotassium salt is a cell impermeable fluorescent probe for Mg^{2+} detection[1].
In Vitro	Mag-Indo-1 tetrapotassium salt can be used to determine the free Mg^{2+} concentration in the cytoplasmic solutions[1]. Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs)[1]. 1. Calibrating solutions containing various concentrations of Mg^{2+} are prepared by mixing different ratios of the two stock solutions: one contains (mM) 150 KCl, 0.1 EGTA and 5 Hepes (pH 7.2 with KOH), and the other contains 100 $MgCl_2$, 0.1 EGTA and 5 Hepes (pH 7.2 with KOH). 2. The calibration curve is constructed using calibrating solutions containing 1 μM Mag-Indo-1 tetrapotassium salt. 3. The 'Mg^{2+}' calibrating solution contained (mM): 130 KCl, 4 EDTA and 5 Hepes (pH 7.2 with KOH). 4. The relationship between the background-corrected value of the fluorescence ratio (R) and the Mg^{2+} concentration is fitted with the following theoretical equation. $[Mg]=K (R-R_{min})/(R_{max}-R)$, where [Mg] is the concentration of free Mg^{2+} ion, R_{min} is the R value at 0 $[Mg^{2+}]$, and R_{max} is the R value at saturating Mg^{2+}. The curve fitting gave R_{min}= 0.053, R_{max}= 1.57, and K= 5.1 mM. Note: the specific curve can refer to the reference. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ding-Hong Yan, et al. Two Kir2.1 channel populations with different sensitivities to Mg(2+) and polyamine block: a model for the cardiac strong inward rectifier K(+) channel. J Physiol. 2005 Mar 15;563(Pt 3):725-44.

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