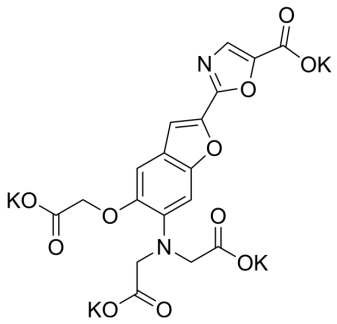
Mag-Fura-2 tetrapotassium

Cat. No.:	HY-D1702
CAS No.:	132319-57-4
Molecular Formula:	$C_{18}H_{10}K_4N_2O_{11}$
Molecular Weight:	586.67
Target:	Fluorescent Dye
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Mag-Fura-2 tetrapotassium is a UV excitable rational fluorescent Mg^{2+}/Ca^{2+} indicator (Ex=334-360 nm, Em=510 nm). Mag-Fura-2 tetrapotassium can be used for the determination of Mg^{2+} and Ca^{2+} concentrations[1][2].
In Vitro	Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs). Monitoring of Ca^{2+} release[1]: 1. Incubate dispersed parotid acinar cells with 8 μM Mag-fura-2 tetrapotassium for 30 min at 37℃. (acinar cells for example). 2. Wash cells twice with fresh HBSS-H without BSA. 3. Precoate cell adhesive Cell-Tak on sample chambers. 4. Transfer the dye-loaded cells to the chambers and attach to the bottom. 5. Mounte the sample chambers on the stage of an inverted microscope (equipped with a 40 × objective), wash with BSA-free HBSS-H and then with Mg^{2+}/ATP-free ICM. 6. Incubate acinar cells with Mg^{2+}/ATP-free ICM containing 50 μg/mL saponin for 3-5 min at room temperature. 7. Wash the cells with ICM containing Mg^{2+} and ATP, and incubate in the complete ICM for at least 5 min to allow complete filling of the intracellular Ca^{2+} stores. 8. Alternately excite permeabilised cells, capture and digitise fluorescence emission at 510 nm by a digital imaging system (record the 344 nm/360 nm ratio every 20 s). Note: ICM (intracellular-like medium) containing 125 mM KCl, 19 mM NaCl, 10 mM HEPES (pH 7.3 with KOH), 3 mM ATP, 1.4 mM $MgCl_2$, 0.33 mM $CaCl_2$, and 1 mM EGTA. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Tojyo Y, et al. Monitoring of Ca2+ release from intracellular stores in permeabilized rat parotid acinar cells using the fluorescent indicators Mag-fura-2 and calcium green C18. Biochem Biophys Res Commun. 1997 Nov 7;240(1):189-95.

[2]. Dai LJ, et al. Intracellular Mg2+ and magnesium depletion in isolated renal thick ascending limb cells. J Clin Invest. 1991 Oct;88(4):1255-64.

Caution: Product has not been fully validated for medical applications. For research use only.

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