Glowing products for science

Call us : 800-304-5357

Furaptra (Mag-Fura-2), Tetrapotassium Salt



Mag-Fura-2 is a UV-excitable fluorescent indicator for magnesium with a K_d of 1.9 mM (1,2).

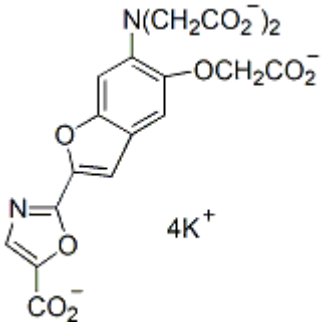
Product attributes

CAS number	132319-57-4
Cell permeability	Membrane impermeant
Indicator type	Ratiometric
Colors	Green
Excitation/Emission	369/511 nm (no Mg2+); 330/491 nm (high Mg2+)

Product Description

Mag-Fura-2 is a UV-excitable fluorescent indicator for magnesium with a K_d of 1.9 mM (1,2). Similar to Fura-2, the excitation wavelength of Mag-Fura-2 undergoes a blue shift from 369 nm to 330 nm. Mag-Fura-2 also responds to Ca^{2+} but with a significantly higher K_d than Fura-2 for Ca^{2+}. An important application of Mag-Fura-2 is its use in detecting high, transient Ca^{2+} concentration during Ca^{2+} spikes (3,4). Mag-Fura-2, tetraammonium salt can be loaded into cells by microinjection or scrape loading. Also see Mag-Fura-2, tetrasodium salt (cat# 50036) and the cell membrane-permeant Mag-Fura-2 AM ester (cat# 50037, 50038, 50039).

- Light yellow solid soluble in water (pH > 6)
- Store at -20°C and protect from light
- $C_{18}H_{10}K_4N_2O_{11}$
- MW: 587
- [132319-57-4]



BAPTA-based ion indicators like Furaptra have been shown to be fixable in situ by EDC/EDAC (cat# 59002). The fixation of indicator dyes is useful for downstream immunofluorescence and IHC studies (Cell Calcium 1997, 21(3), 175).

As the indicator does not covalently bind to cellular components, it may be actively effluxed from the cell by organic anion transporters. The rate of efflux increases with temperature, and may vary between cell types, resulting in variable retention times of a few minutes to hours. Experiments using indicators in cells usually are performed within one or two hours of loading, but it may be possible to re-load cells with indicator if needed. The organic anion transporter inhibitor Probenecid (#50027) can be used to slow the rate of indicator efflux from cells.

References

1. PNAS 86, 2981 (1989), DOI: 10.1073/pnas.86.8.2981
2. Am J Physiol 256, C540 (1989), DOI: 10.1152/ajpcell.1989.256.3.C540
3. Neuron 10, 21 (1993), DOI: 10.1016/0896-6273(93)90238-M
4. Biophys J 68, 2156 (1995, DOI: 10.1016/S0006-3495(95)80398-X
5. Methods Cell Biol, 99, 113, (2021), DOI: 10.1016/B978-0-12-374841-6.00005-0

This datasheet was generated on November 15, 2026 at 02:56:11 AM. Visit product page to check for updated information before use.
Product link: https://biotium.com/product/furaptra-tetrapotassium-salt-also-known-as-mag-fura-2-tetrapotassium-salt/