Glowing products for science

Call us : 800-304-5357

Rhod-590, Tripotassium Salt

Membrane-impermeant calcium indicator that can be loaded into cells via microinjection or scrape loading. For the membrane-permeable AM ester form of Rhod-590, see 50025.

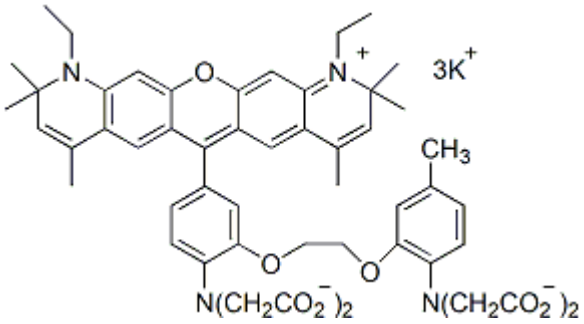
Product attributes

Cell permeability	Membrane impermeant
Indicator type	Non-ratiometric
Excitation/Emission	590/616 nm (no Ca2+); 595/626 nm (high Ca2+)

Product Description

Membrane-impermeant calcium indicator that can be loaded into cells via microinjection or scrape loading. For the membrane-permeable AM ester form of Rhod-590, see cat# 50025.

- K_d: 0.61 uM
- $\lambda_{Ex}/\lambda_{Em}$ 590/616 nm for zero calcium and 595/626 nm for high calcium
- Purple solid soluble in DMSO and water (pH >6)
- Store at 4°C and protect from light, especially in solution
- MW: 1029



BAPTA-based ion indicators like Rhod-590 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. Methods Cell Biol, 99, 113, (2021), DOI: 10.1016/B978-0-12-374841-6.00005-0