Rhod-590 AM Ester

Membrane-permeant form of Rhod-590 that can be loaded into cells via incubation.



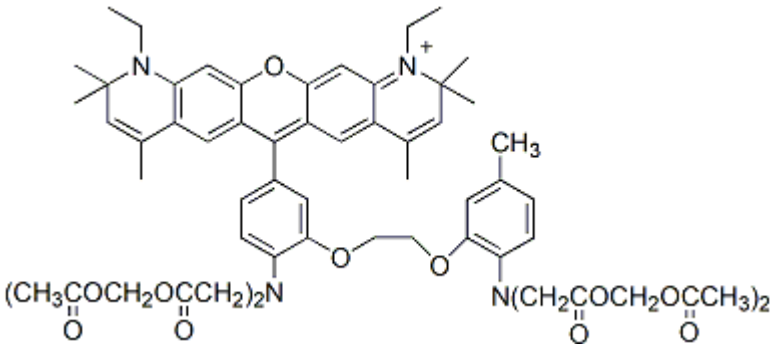
Product attributes

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

Product Description

Membrane-permeant form of Rhod-590 calcium indicator dye that can be loaded into cells via incubation. Because of the relatively low water solubility of the AM ester, the mild detergent Pluronic® F-127 (cat# 59004), while optional, is recommended to facilitate cell loading. Rhod-590 AM ester itself does not bind Ca^{2+}, but it is readily hydrolyzed to Rhod-590 by endogenous esterases once it enters cells. For more information on rhod-590, see cat# 50026.

- Dark purple solid soluble in DMSO
- Store at -20°C and protect from light, especially in solution
- MW: 1204



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.

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References

1. Methods Cell Biol, 99, 113, (2021), DOI: 10.1016/B978-0-12-374841-6.00005-0