Indo-1, AM Ester

Indo-1, AM ester is membrane-permeant and thus can be loaded into cells via incubation. Because of the relatively low water solubility of the AM ester, Pluronic F-127, a mild detergent, is often used as a dispersing agent to facilitate cell loading.

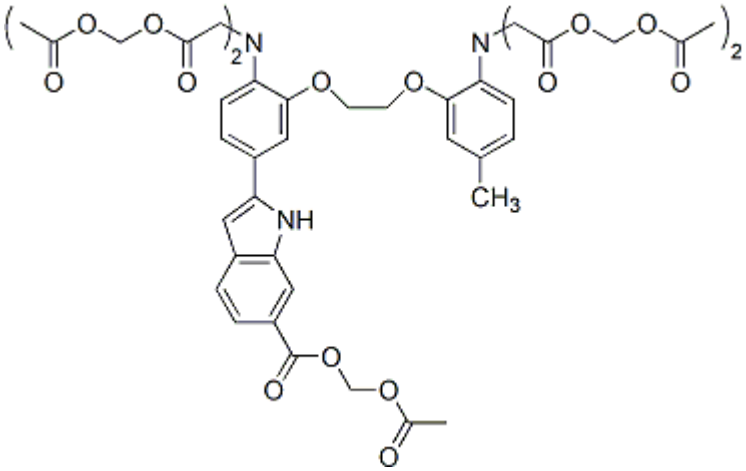
Product attributes

CAS number	112926-02-0
Cell permeability	Membrane permeant
Indicator type	Ratiometric
Excitation/Emission	349/482 nm (no Ca2+); 331/398 nm (high Ca2+) (after hydrolysis)

Product Description

Indo-1, AM ester is membrane-permeant and thus 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) is often used as a dispersing agent to facilitate cell loading. Indo-1-AM Ester itself does not bind Ca^{2+}, but it is readily hydrolyzed to indo-1 by endogenous esterases once it enters cells. For more information on indo-1, see cat# 50040.

- Light yellow solid soluble in DMSO
- Store desiccated at -20°C and protect from light, especially in solution
- $C_{47}H_{51}N_3O_{22}$
- MW: 1010
- [112926-02-0]



BAPTA-based ion indicators like Indo-1 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. J Neurophysiol 67, 704 (1992), DOI: 10.1152/jn.1992.67.3.704
2. J Biol Chem 262, 15041 (1987), PMID: 3667622
3. J. Biol. Chem. 261, 9710 (1986), PMID: 3755432
4. Methods Cell Biol, 99, 113, (2021), DOI: 10.1016/B978-0-12-374841-6.00005-0