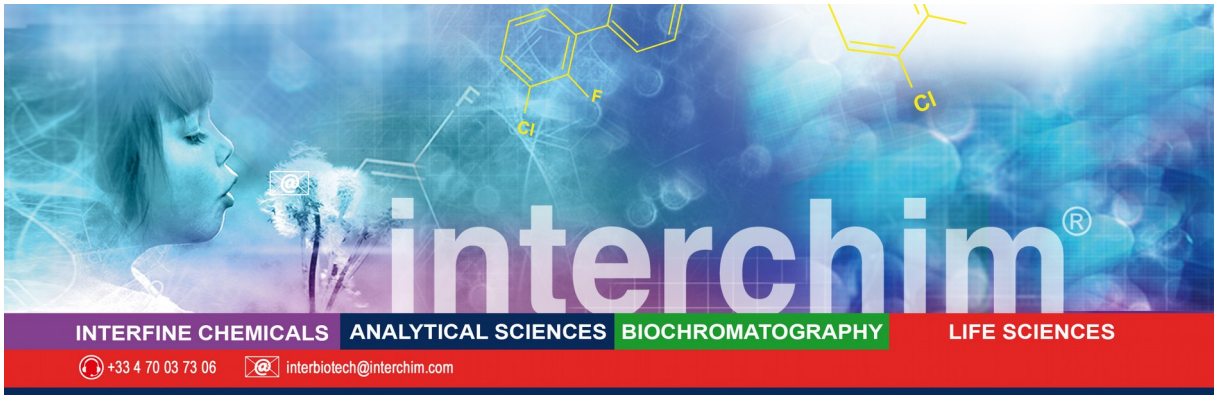
FT-56958A

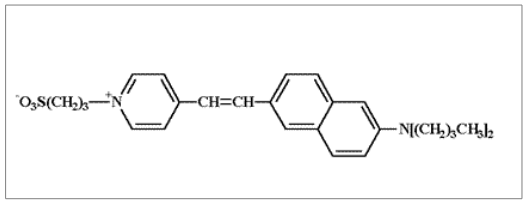


ANEPPS, ANEPPQ

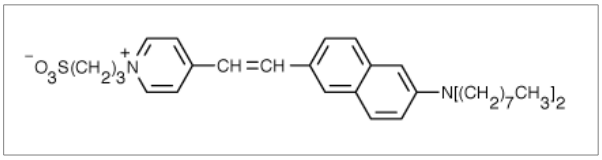
Fast-responding membrane potential dyes

Product Information

Name :	**Di-4-ANEPPS**
Catalog Number :	FP-56958A, 5mg
Structure :	$C_{28}H_{36}N_2O_3S$
Molecular Weight :	MW= 480.67
Soluble:	In DMSO, EtOH and DMF
Absorption / Emission :	$\lambda_{exc}\backslash\lambda_{em}$ (MeOH) = 496 nm / 705 nm
Extinction Coefficient :	42 000 $cm^{-1}M^{-1}$
Storage:	Store at +4°C$_{(L)}$ in a closed container, protected from light especially in solution.



Name :	**Di-8-ANEPPS**
Catalog Number :	FP-17177A, 5mg
Structure :	$C_{36}H_{52}N_2O_3S$
Molecular Weight :	MW= 592.88
Soluble:	In DMSO, EtOH
Absorption / Emission :	$\lambda_{exc}\backslash\lambda_{em}$ (MeOH) = 498 nm / 713 nm
Extinction Coefficient :	37 000 $cm^{-1}M^{-1}$
Storage:	Store at -20°C$_{(L)}$ in a closed container, protected from light especially in solution.



Name :	**Di-12-ANEPPQ**
Catalog Number :	FP-M14752, 5mg
Structure :	$C_{46}H_{75}Br_2N_3$
Molecular Weight :	MW= 829.95
Soluble:	In DMSO, DMF
Absorption / Emission :	$\lambda_{exc}\backslash\lambda_{em}$ (MeOH) = 498 nm / 713 nm
Extinction Coefficient :	37 000 $cm^{-1}M^{-1}$
Storage:	Store at -20°C$_{(L)}$ in a closed container, protected from light especially in solution.

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Storage: Store at 4°C(L) in a closed container, protected from light especially in solution.

Introduction

ANEPPS is a fast-responding membrane potential dye. The changes in the fluorescence excitation intensities of the dye are correlated to the changes in the membrane potential of the cell. It responds to alterations in membrane potential with opposite changes in fluorescence excitation intensity at 440 and 505nm. The changes can be correlated by ratiometric methods to the changes in the membrane potential of the cell.

It is developed by Loew for spatially resolved optical imaging of membrane potential. It has been used to image spiral waves of membrane potential in canine epicardial muscle, and to measure membrane potentials of nonexcitable cells.
Di-4-ANEPPS has a fairly uniform 10% per 100 mV change in fluorescence intensity in a variety of tissue, cell and model membrane systems.
Di-4-ANEPPS has the problem of being internalized in cells over long-term, so it is mainly used for short-term experiments.

Di-8-ANEPSS contains () 2 octyl chains instead of the butyl chains on di-4-ANEPPS and is more lipophilic. So, it employed to follow membrane potentials over long timecourses. It can be used for ratiometric imaging.(Chang Xu, 2003)
Di-8-ANEPPS is also more photostable and less phototoxic than Di-4-ANEPPS

Di-12-ANEPPQ is a fast-responding membrane potential dye. It is more hydrophobic than Di-8-ANEPPQ and is useful for potential-sensitive retrograde labeling of neurons.

Directions for use

Handling and Storage
di-4-ANEPPS, di-8-ANEPPS and Di-12-ANEPPQ should be dissolved in DMSO. The stock concentration may be about 2-10 mM, then stored aliquoted frozen.

Guidelines for use
Protocol may found in the literature.
The variation of chemical and physical characteristics of biological preparation and the optical instrumentation ask to study different parameter to best results (temperature, concentration, incubation time).
Due to a low solubility, Pluronic® F127 (with a average concentration of 0.02%) is recommended to prepare ANEPPS, specially with di-8ANEPPS. ()
The solubility of di-4-ANEPPS is only 0.3µM ()

Final concentration vary between 0.5 to 15 µM

A short incubation with di-4-ANEPPS is recommended, about 2-5 min (due to this being internalized in cells over long-term).
Di-8 ANEPPS is generally incubated for 10-20min

Related products

- Pluronic® F127, FP-379951
- Di-2-ANEPEQ, FP-M1473A

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