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Di-8-ANEPPS, potentiometric probe

http://www.lumiprobe.com/p/di-8-anepps

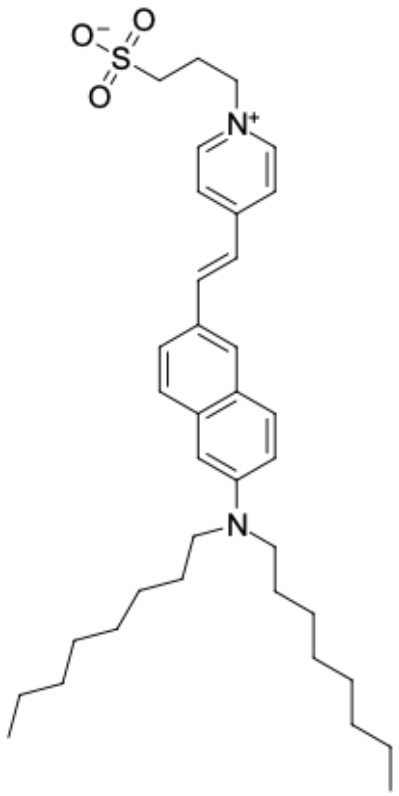
Di-8-ANEPPS is an *A*mino-*N*aphthyl-*E*thenyl-*P*yridinium (ANEP) family voltage-sensitive dye widely used as a fast-responding membrane potential probe. The dye is non-fluorescent until bound to membranes and fluoresces only in response to electrical potential fluctuations in its environment.

The optical response of Di-8-ANEPPS is fast enough to detect transient (millisecond) potential changes in excitable cells, such as single neurons, cardiac cells, and intact brains. The magnitude of potential-dependent fluorescence change is about 2-10% per 100 mV. The dye also displays a potential-dependent shift in excitation spectrum, permitting the quantitation of cell membrane potential using ratiometric techniques.

Di-8-ANEPPS has more lipophilic properties and is better retained in the outer leaflet of the cell membrane than other dyes of the ANEP family, making it well-suited for long-term experiments. Since Di-8-ANEPPS binds to the cell membrane, it can also be simply used as a plasma membrane marker.

Excitation/emission maxima of Di-8-ANEPPS in methanol are 498/713 nm, respectively. In lipids and cell membranes, the excitation and emission spectra of the dye are typically blue-shifted compared to organic solvent.

Di-8-ANEPPS can be introduced into cells by directly adding the stock solution to the culture medium, using Pluronic® F-127, or retrograde labeling. Use a 5-10 µM working concentration as a starting point. The exact dye concentration should be defined experimentally.



Structure of Di-8-ANEPPS

General properties

Appearance:	red solid
Molecular weight:	592.89
CAS number:	157134-53-7
Molecular formula:	$C_{36}H_{52}N_2O_3S$
Solubility:	ethanol, DMSO, DMF

Quality control:	NMR ^{1}H and HPLC-MS (95+%)
Storage conditions:	24 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.
Legal statement:	Product is offered and sold for research purposes only. Product is not tested for safety and efficacy in food, drug, medical device, cosmetic, no express or implied authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, for humans or animals or for commercial purposes.