

Di-8-ANEPPS, potentiometric probe

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

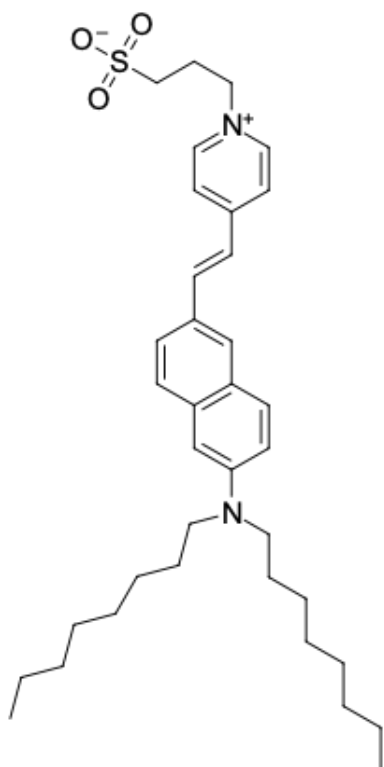
Di-8-ANEPPS is a member of the *A*mino-*N*aphthyl-*E*thenyl-*P*yrindinium (ANEP) family of voltage-sensitive dyes used as a fast-response indicator of membrane potential. The dye fluoresces exclusively when bound to cell membranes and responds only to changes in the electric field in its immediate surroundings.

The optical response of Di-8-ANEPPS is fast enough to detect millisecond changes in membrane potential in excitable tissues, such as individual neurons and cardiomyocytes. The amplitude of the voltage-dependent fluorescence change is 2–10% per 100 mV. The dye exhibits a voltage-dependent shift in its excitation spectrum, enabling ratiometric quantitative analysis of membrane potential dynamics.

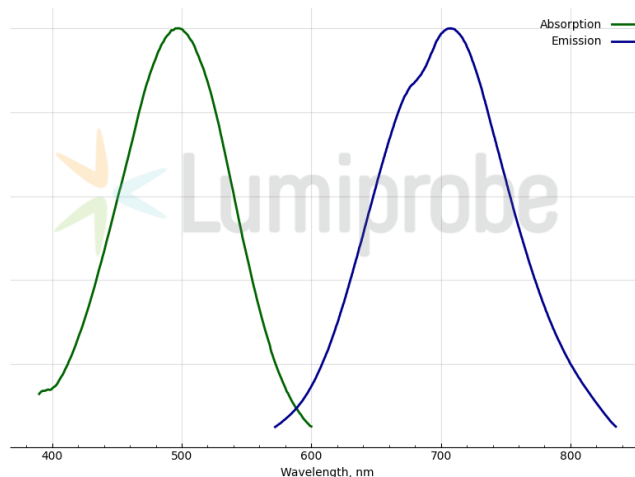
Di-8-ANEPPS has more lipophilic properties and is better retained in the outer leaflet of the cell membrane than other dyes of the ANEP family, making it well-suited for long-term experiments. Since Di-8-ANEPPS binds to the cell membrane, it can also be used as a plasma membrane marker.

Excitation/emission maxima of Di-8-ANEPPS in methanol are 499/708 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



Absorbance and emission spectra 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 ₂ O ₃ S
Solubility:	ethanol, DMSO, DMF

Quality control:	NMR ¹ H and HPLC-MS (95+%)
Storage conditions:	24 months after receipt 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.

Spectral properties

Excitation/absorption maximum, nm: 499

Emission maximum, nm: 708

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