

## Di-8-ANEPPS, potentiometric probe

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

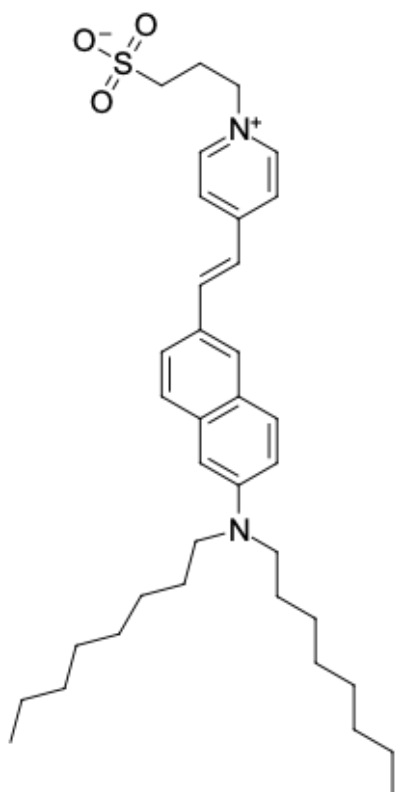
Di-8-ANEPPS is an *A*mino-*N*aphthyl-*E*thenyl-*P*yrindinium (ANEP) family voltage-sensitive dye widely used as a fast-responding membrane potential probe. The dye is non-fluorescent until bound to membranes and fluoresces only in response to electrical potential fluctuations in its environment.

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  $\mu$ M 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 <sub>36</sub> H <sub>52</sub> N <sub>2</sub> O <sub>3</sub> S
Solubility:	ethanol, DMSO, DMF

Quality control: NMR <sup>1</sup>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.

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