

Di-4-ANBDQBS [JPW6033]

Catalog number: 21500

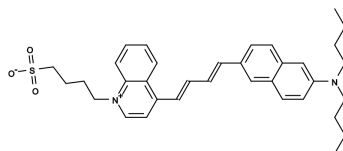
Unit size: 1 mg

Product Details

Storage Conditions	Freeze (<-15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid
Molecular Weight	570.78
Soluble In	DMSO
Chemical Structure	



Applications

Di-4-ANEPPS is considered a "gold standard" of optical mapping membrane potentials. However, its short wavelength, higher internalization rate and small fluorescence change limit its use in some biological samples. Di-4-ANBDQPQ and Di-4-ANBDQBS demonstrated 50-100% $\Delta F/F$ signal enhancement than di-4-ANEPPS in Tyrode's perfused ventricular wall preparations. The longer excitation wavelength of Di-4-ANBDQPQ and Di-4-ANBDQBS is well separated from the absorption maximum of blood (~580 nm), conveying a major advantage in blood-perfused preparations. Di-4-ANBDQPQ and Di-4-ANBDQBS increase the depth of imaging of electrical activity in tissues, and facilitate imaging during blood perfusion. These two dyes are also useful in conventional epicardial mapping applications. In summary, Di-4-ANBDQPQ and Di-4-ANBDQBS have greater $\Delta F/F$, slower internalization rate and easy cell loading. Moreover, the red shift of excitation and emission is likely to be another useful feature. These dyes may as well be useful for optical mapping of monolayers and individual cardiac myocytes, given the ability of these dyes to respond to low levels of illumination (1 mW/mm²) and high $\Delta F/F$. Monolayers and individual cardiac myocytes usually require high intensities of illumination, which often results in photobleaching.