

**RatioWorks™ PDMPO**

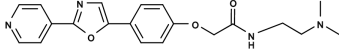
Catalog number: 21204

Unit size: 1 mg

**Product Details**

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

**Chemical Properties**

Appearance	Yellow solid
Molecular Weight	366.41
Soluble In	DMSO
Chemical Structure	

**Spectral Properties**

Excitation Wavelength	333 nm
Emission Wavelength	531 nm

**Applications**

The existing pH probes are ill-adapted to study acidic organelles such as lysosomes, endosomes, spermatozoa and acrosomes because their fluorescence is significantly reduced at lower pH. In addition, most of the existing pH probes (such as BCECF and SNARF) are not selectively localized in acidic organelles. The growing potential of ratio imaging is significantly limited by the lack of appropriate fluorescent probes for acidic organelles although ratio imaging has received intensive attention in the past few decades. PDMPO [2-(4-pyridyl)-5-((4-(2-dimethylaminoethylaminocarbonyl)methoxy)phenyl)oxazole] is the same molecule to LysoSensor Yellow/Blue, and characterized as acidotropic dual-excitation and dual-emission pH probe. It emits intense yellow fluorescence at lower pH and gives intense blue fluorescence at higher pH. This unique pH-dependent fluorescence makes PDMPO an ideal pH probe for acidic organelles with pKa = 4.47. PDMPO selectively labels acidic organelles (such as lysosomes) of live cells and the two distinct emission peaks can be used to monitor the pH fluctuations of live cells in ratio measurements. Additionally, the very large Stokes shift and excellent photostability of PDMPO make PDMPO an excellent fluorescent acidotropic reagent for fluorescence imaging. The unique fluorescence properties of PDMPO might give researchers a new tool with which to study acidic organelles of live cells. PDMPO can be well excited by the violet laser at 405 nm for flow cytometric applications.