Data Sheet (Cat.No.T208221)

TargetMol

MQA-P

Chemical Properties

CAS No. :

Formula: C40H36BrN2O2P

Molecular Weight:

Storage: Keep away from direct sunlight
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	MQA-P is a versatile near-infrared (NIR) fluorescent probe that can simultaneously detect ONOO-, viscosity, and polarity within mitochondria. It shows a significant response to ONOO- at λem=645 nm and is highly sensitive to viscosity/polarity in the NIR channel at λem>704 nm. MQA-P possesses excited state intramolecular charge transfer (ESICT) characteristics, being highly sensitive to polarity by designing the N,N-dimethylamino group as an electron donor and the quinoline cation unit as an electron acceptor. MQA-P is used for ferroptosis or cancer diagnosis through dual-channel imaging both in vitro and in vivo.
Targets(IC50)	Others
In vitro	The following is our recommended procedure, meant as a guideline and should be adjusted to meet your specific requirements: MQA-P is dissolved in dimethyl sulfoxide (DMSO) to prepare a stock solution (1.0 mM). It is used for imaging $ONOO^-$ in live cells. HeLa cells are incubated with MQA-P (5 μM) for 30 minutes as a control; pretreated with SIN-1 (100 μM) for 30 minutes, then incubated with MQA-P (5 μM) for another 30 minutes. Imaging is conducted in the green channel (λ ex = 405 nm, λ em = 550-670 nm). For cellular viscosity imaging, HeLa cells are also incubated with MQA-P (5 μM) for 30 minutes as a control; pretreated with monensin (10 μM) for 30 minutes, followed by a 30-minute incubation with MQA-P (5 μM). Fluorescence images are captured using a confocal laser scanning microscope in the red channel (λ ex = 561 nm, λ em = 680-750 nm). In ferroptosis, MQA-P aids in dual-channel imaging of $ONOO^-$, viscosity, and polarity. HeLa cells are incubated with MQA-P (5 μM) for 30 minutes for control; pretreated with Erastin (50 μM) for 30 minutes, then incubated again with MQA-P (5 μM) for 30 minutes. Fluorescence images utilize a confocal laser scanning microscope, with the green channel (λ ex = 405 nm, λ em = 550-670 nm) for $ONOO^-$, and the red channel (λ ex = 561 nm, λ em = 680-750 nm) for viscosity and polarity.
In vivo	Please rewrite the following description sentence according to the requirements made before: 'Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs). 1. For imaging tissue sections, isolate normal organs (including heart, liver, spleen, lung, and kidney) and tumors from mice, then cut them into 5 μm thick sections. 2. Incubate these sections

In vivo	with MQA-P (20 μM) for 30 minutes, wash 3 times with PBS (pH 7.4), and perform live imaging using a confocal laser scanning microscope. Use the green channel (λ ex =405 nm, λ em =550-670 nm) for ONOO-, and the red channel (λ ex =561 nm, λ em =680-750 nm) for viscosity and polarity.'