



# SZABO SCANDIC

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### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

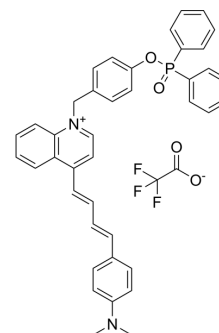
[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

## MQA-P TFA

<b>Cat. No.:</b>	HY-149203A
<b>Molecular Formula:</b>	C <sub>42</sub> H <sub>36</sub> F <sub>3</sub> N <sub>2</sub> O <sub>4</sub> P
<b>Molecular Weight:</b>	720.72
<b>Target:</b>	Fluorescent Dye
<b>Pathway:</b>	Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



## BIOLOGICAL ACTIVITY

<b>Description</b>	<p>MQA-P is a multifunctional near-infrared (NIR) fluorescent probe that simultaneously detects ONOO<sup>-</sup>, viscosity, and polarity within mitochondria. MQA-P exhibits significant response to ONOO<sup>-</sup>, λ<sub>em</sub>=645 nm; and NIR channel at λ<sub>em</sub>&gt;704 nm. Medium is highly sensitive to viscosity/polarity. MQA-P possesses excited-state intramolecular charge transfer (ESICT) properties that are highly sensitive to polarity by designing the N,N-dimethylamino group as the electron donor and the quinoline cation unit as the electron acceptor. MQA-P is used for ferroptosis or cancer diagnosis in vitro and in vivo via dual-channel images [1][2].</p>
<b>In Vitro</b>	<p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <ol style="list-style-type: none"> <li>MQA-P is dissolved in dimethyl sulfoxide (DMSO) to prepare a stock solution (1.0 mM).</li> <li>For imaging of ONOO<sup>-</sup> in live cells. HeLa cells are incubated with MQA-P (5 μM) for 30 min as control; pretreated with SIN-1 (HY-126849; 100 μM) for 30 min and then incubated with MQA-P (5 μM) for another 30 min. The fluorescence images are obtained on a confocal laser scanning microscope with a green channel (λ<sub>ex</sub>= 405nm, λ<sub>em</sub>= 550-670 nm).</li> <li>For imaging of viscosity in live cells. HeLa cells were incubated with MQA-P (5 μM) for 30 min as control; pretreated with Monensin (HY-N4302; 10 μM) for 30 min and then incubated with MQA-P (5 μM) for another 30min. The fluorescence images are obtained on a confocal laser scanning microscope with a red channel (λ<sub>ex</sub>= 561 nm, λ<sub>em</sub>= 680-750 nm).</li> <li>For dual-channel imaging of ONOO<sup>-</sup>, viscosity and polarity during ferroptosis. HeLa cells are incubated with MQA-P (5 μM) for 30 min as control; pretreated with Erastin (HY-15763; 50 μM) for 30 min and then incubated with MQA-P (5 μM) for another 30 min. The fluorescence images are obtained on a confocal laser scanning microscope with a green channel (λ<sub>ex</sub>= 405nm, λ<sub>em</sub>= 550-670 nm) for ONOO<sup>-</sup> and a red channel (λ<sub>ex</sub>= 561 nm, λ<sub>em</sub>= 680-750 nm) for viscosity and polarity<sup>[1]</sup>.</li> </ol> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <ol style="list-style-type: none"> <li>For tissue slices imaging, the normal organs (including heart, liver, spleen, lung, and kidney) and tumor are isolated from the mice, then sectioned as 5 μm thicknesses, respectively.</li> <li>These slices are incubated with MQA-P (20 μM) for 30 min, then washed with PBS (pH 7.4) three times, and finally subjected to in vivo imaging using a confocal laser scanning microscope with a green channel (λ<sub>ex</sub>=405nm, λ<sub>em</sub>=550-670 nm) for ONOO<sup>-</sup> and a red channel(λ<sub>ex</sub>=561 nm, λ<sub>em</sub>=680-750 nm) for viscosity and polarity, respectively<sup>[1]</sup>.</li> </ol> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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## REFERENCES

[1]. Li Fan, et al. Multifunctional Fluorescent Probe for Simultaneous Detection of ONOO-, Viscosity, and Polarity and Its Application in Ferroptosis and Cancer Models. Anal Chem. 2023 Apr 4;95(13):5780-5787.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA