



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



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Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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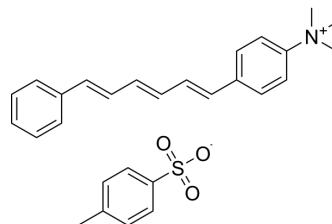
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## TMA-DPH

<b>Cat. No.:</b>	HY-D0986
<b>CAS No.:</b>	115534-33-3
<b>Molecular Formula:</b>	C <sub>28</sub> H <sub>31</sub> NO <sub>3</sub> S
<b>Molecular Weight:</b>	461.62
<b>Target:</b>	Fluorescent Dye
<b>Pathway:</b>	Others
<b>Storage:</b>	-20°C, sealed storage, away from moisture and light * The compound is unstable in solutions, freshly prepared is recommended.



## SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 10 mg/mL (21.66 mM; ultrasonic and warming and heat to 60°C)																							
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent Concentration</th> <th colspan="3">Mass</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td><b>Preparing Stock Solutions</b></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1 mM</td> <td>2.1663 mL</td> <td>10.8314 mL</td> <td>21.6628 mL</td> </tr> <tr> <td>5 mM</td> <td>0.4333 mL</td> <td>2.1663 mL</td> <td>4.3326 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2166 mL</td> <td>1.0831 mL</td> <td>2.1663 mL</td> </tr> </tbody> </table>	Solvent Concentration	Mass			1 mg	5 mg	10 mg	<b>Preparing Stock Solutions</b>				1 mM	2.1663 mL	10.8314 mL	21.6628 mL	5 mM	0.4333 mL	2.1663 mL	4.3326 mL	10 mM	0.2166 mL	1.0831 mL	2.1663 mL
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	Please refer to the solubility information to select the appropriate solvent.																							
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 1 mg/mL (2.17 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 1 mg/mL (2.17 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: 1 mg/mL (2.17 mM); Suspended solution; Need ultrasonic</li> </ol>																							

## BIOLOGICAL ACTIVITY

<b>Description</b>	TMA-DPH is a hydrophobic fluorescent membrane probe (Ex=355 nm; Em=430 nm).
<b>In Vitro</b>	<p>In contact with cells, TMA-DPH is instantaneously incorporated into the plasma membrane. TMA-DPH is concentrated in lysosomes and highly acidic late endosomes<sup>[1]</sup>. The TMA-DPH fluorescence lifetime remains constant, 6.2±0.2 ns, below the same critical concentration of 2 μM, but decreases significantly with higher concentrations. This decrease, however, slows down above 5 μM. The TMA-DPH fluorescence anisotropy displays a similar evolution to the fluorescence lifetime. It is first constant, 0.283±0.003, again until 2 μM, and then decreases rapidly to 0.270±0.003 with 5 μM, continuing to fall, but at a lower rate with higher concentrations<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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## PROTOCOL

### Cell Assay <sup>[1]</sup>

L929 cells in 2 mL DM10F are allowed to adhere on microscope slide flasks. For the observation of plasma membrane labeling, cells are incubated for a short time (10 s) at room temperature with TMA-DPH  $2 \times 10^{-6}$  M in PBS or in DM10F from a  $4 \times 10^{-3}$  M stock solution in dimethylformamide. The unwashed slide is then transferred to the microscope and observed. For the labeling of internalized membrane, the cells are incubated in slide flasks at 37°C, with TMA-DPH  $2 \times 10^{-6}$  M in DM10F for the desired time, and then washed by gently shaking the slide in PBS for a few seconds<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## CUSTOMER VALIDATION

- Stem Cell Res Ther. 2024 Jan 8;15(1):12.
- Ecotoxicol Environ Saf. 2022 Dec 9;249:114375.
- Ecotoxicol Environ Saf. 2021 Dec 20;227:112885.
- Biotechnol Biofuels. 2019 Mar 19;12:59.
- Food Funct. 2020 Jan 29;11(1):700-710.

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## REFERENCES

[1]. Illinger D, et al. The kinetic aspects of intracellular fluorescence labeling with TMA-DPH support the maturation model for endocytosis in L929 cells. J Cell Biol. 1994 May;125(4):783-94.

[2]. Illinger D, et al. A comparison of the fluorescence properties of TMA-DPH as a probe for plasma membrane and for endocytic membrane. Biochim Biophys Acta. 1995 Oct 4;1239(1):58-66.

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

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