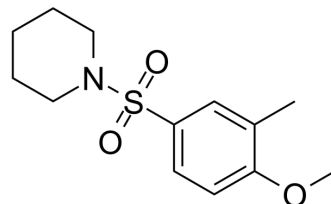


## AA92593

<b>Cat. No.:</b>	HY-125145		
<b>CAS No.:</b>	457961-34-1		
<b>Molecular Formula:</b>	C <sub>13</sub> H <sub>19</sub> NO <sub>3</sub> S		
<b>Molecular Weight:</b>	269.36		
<b>Target:</b>	Others		
<b>Pathway:</b>	Others		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (371.25 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM		3.7125 mL	18.5625 mL	37.1250 mL
		5 mM		0.7425 mL	3.7125 mL	7.4250 mL
10 mM			0.3713 mL	1.8563 mL	3.7125 mL	
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: ≥ 2.08 mg/mL (7.72 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (7.72 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.08 mg/mL (7.72 mM); Clear solution</li> </ol>					

### BIOLOGICAL ACTIVITY

<b>Description</b>	AA92593 is a selective and competitive OPN4 (melanopsin) antagonist <sup>[1][2]</sup> .
<b>In Vitro</b>	<p>AA92593 is a competitive melanopsin antagonist, its presence in the retinal-binding pocket of melanopsin leads to the displacement of retinal, which could trigger a downstream signaling that would ultimately result in Per1 increased expression<sup>[1]</sup>.</p> <p>AA92593 is shown to be specific because it competes with retinaldehyde for the melanopsin retinal binding site which is very distinct from other opsins<sup>[1]</sup>.</p> <p>Inhibition of melanopsin activity with AA92593 increases a-MSH expression and induces melanin dispersion in the</p>

melanophores, which darkens the embryo<sup>[3]</sup>.  
AA92593 exhibits an IC<sub>50</sub> of 665 nM in CHO<sup>Opn4</sup> cells<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.  
Cell Viability Assay<sup>[1]</sup>

Cell Line:	Melan-a melanocytes and B16-F10 melanoma cells <sup>[1]</sup> .
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Concentration:	10 μM.
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Incubation Time:	1 hour (heat 39.5 °C).
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Result:	Pharmacologically inhibited melanopsin.
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#### In Vivo

AA92593 is able to decrease IOP in rabbits living under normal light condition<sup>[2]</sup>.  
AA92593 produces an increment in melatonin levels resulting in a drop of IOP<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Wild type (WT) mice <sup>[4]</sup> .
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Dosage:	30 mg/kg.
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Administration:	IP 20 min prior to PLR measurement.
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Result:	Attenuated pupil constriction in response to light (10 <sup>13</sup> ph.cm <sup>-2</sup> .s <sup>-1</sup> ) by ~50%.
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## CUSTOMER VALIDATION

- Environ Sci Technol. 2023 Jun 24.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Maria Nathália Moraes, et al. Melanopsin, a Canonical Light Receptor, Mediates Thermal Activation of Clock Genes. *Sci Rep.* 2017 Oct 25;7(1):13977.
- [2]. Victoria Eugenia Lledó, et al. Yellow Filter Effect on Melatonin Secretion in the Eye: Role in IOP Regulation. *Curr Eye Res.* 2019 Jun;44(6):614-618.
- [3]. Gabriel E Bertolesi, et al. Melanopsin photoreception in the eye regulates light-induced skin colour changes through the production of α-MSH in the pituitary gland. *Pigment Cell Melanoma Res.* 2015 Sep;28(5):559-71.
- [4]. Kenneth A Jones, et al. Small-molecule antagonists of melanopsin-mediated phototransduction. *Nat Chem Biol.* 2013 Oct;9(10):630-5.

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

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