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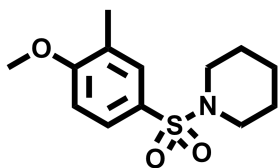
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Antagonist of Melanopsin-mediated Photo-transduction – AA92593

Chemical Name: 1-((4-methoxy-3-methylphenyl)sulfonyl)piperidine



Molecular Weight:	269.36
Formula:	C ₁₃ H ₁₉ NO ₃ S
Purity:	≥98%
CAS#:	457961-34-1
Solubility:	DMSO up to 100 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

AA92593 is a potent and selective small molecule antagonist of melanopsin-mediated photo-transduction (IC₅₀ ~160 nM). It inhibits melanopsin (opsinamides) by competing with retinal binding to melanopsin, and inhibits its function without affecting rod- and cone-mediated responses. In vivo administration of AA92593 to mice specifically and reversibly modified melanopsin-dependent light responses, including the pupillary light reflex and light aversion. Melanopsin, expressed in a subset of retinal ganglion cells, mediates behavioral adaptation to ambient light and other non-image-forming photic responses. The discovery of AA92593 raises the prospect of therapeutic control of the melanopsin photo-transduction system to regulate light-dependent behavior and remediate pathological conditions.

How to Use:

In vitro: AA92593 was used at 10 μM final concentration in various in vitro assays.

In vivo: AA92593 was dosed intraperitoneally 30 mg/kg 20 min before PLR measurement attenuated pupil constriction in response to light (10¹³ ph cm⁻² s⁻¹) by ~50% in adult rd mice.

Reference:

1. Jones KA, et al. Small-molecule antagonists of melanopsin-mediated phototransduction. (2013) Nat Chem Biol. 9(10):630-5.

Products are for research use only. Not for human use.