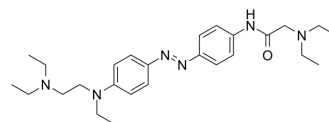


## DAD

Cat. No.:	HY-136564A
Molecular Formula:	C <sub>26</sub> H <sub>40</sub> N <sub>6</sub> O
Molecular Weight:	452.64
Target:	Potassium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



## BIOLOGICAL ACTIVITY

<b>Description</b>	DAD is a type of ion channel blocker that blocks voltage-gated potassium channels. DAD is a third-generation photoswitch that responds to visible light. DAD has the potential for restoring visual function <sup>[1]</sup> .
<b>In Vitro</b>	DAD is not permanently charged, and the uncharged form enables the photoswitch to rapidly and effectively cross biological barriers and thereby access and photosensitize retinal neurons. DAD selectively photosensitizes retinal neurons upstream of retinal ganglion cells (RGCs). DAD is capable of restoring retinal ganglion cell light responses to blue or white light <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Intravitreal injection of DAD restores retinal light responses and light-driven behavior to blind mice. DAD acts upstream of retinal ganglion cells, primarily conferring light sensitivity to bipolar cells. DAD is capable of generating ON and OFF visual responses in the blind retina by utilizing intrinsic retinal circuitry <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

[1]. Laura Laprell, et al. Photopharmacological Control of Bipolar Cells Restores Visual Function in Blind Mice. J Clin Invest. 2017 Jun 30;127(7):2598-2611.

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

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