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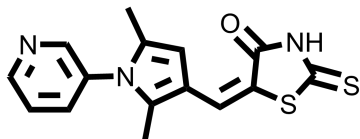
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Optovin --- TRPA1 Activator

Chemical Name: (E)-5-((2,5-dimethyl-1-(pyridin-3-yl)-1H-pyrrol-3-yl)methylene)-2-thioxothiazolidin-4-one



Molecular Weight:	315.41
Formula:	C ₁₅ H ₁₃ N ₃ OS ₂
Purity:	≥ 98%
CAS#:	348575-88-2
Solubility:	DMSO up to 50 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

Optovin is a potent and selective small molecule activator of human TRPA1, identified through a high throughput zebrafish behavior screening. It activates human TRPA1 via photochemical reactions with redox-sensitive cysteine residues (EC₅₀ ~2 μM), and enables repeated photoactivation of motor behaviors in wild-type zebrafish and mice. Optovin's behavioral effects are not visually mediated. Rather, photodetection is performed by sensory neurons expressing the cation channel TRPA1. In animals with severed spinal cords, optovin treatment enables control of motor activity in the paralyzed extremities by localized illumination. These studies identify a light-based strategy for controlling endogenous TRPA1 receptors *in vivo*, with potential clinical and research applications in nontransgenic animals, including humans.

How to Use:

In vitro: Optovin was used at 10 μM final concentration *in vitro* and in cellular assays.

In vivo: Optovin was suggested to be delivered on the ear for 20 μL of optovin solution (15 mM in DMSO).

Reference:

1. Kokel D, et al. Photochemical activation of TRPA1 channels in neurons and animals. (2013) *Nat Chem Biol.* 9(4):257-63.

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