

Product Data Sheet

Product Name: Optovin
Cat. No.: GC12597

Chemical Properties

Cas. No. 348575-88-2

Chemical Name (E)-5-((2,5-dimethyl-1-(pyridin-3-yl)-1H-pyrrol-3-yl)methylene)-4-hydroxythiazole-2(5H)-thione

SMILES CC(N1C2=CN=CC=C2)=CC(/C([H])=C(S3)\C(O)=NC3=S)=C1C

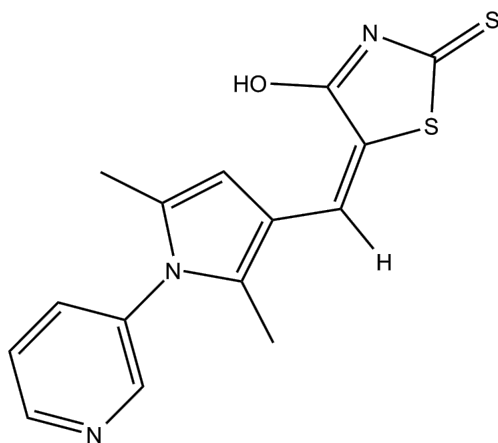
Formula $C_{15}H_{13}N_3OS_2$ M.Wt 315.41

Solubility DMF: 25 mg/ml, DMF:PBS(pH 7.2) (1:6): 0.14 mg/ml, DMSO: 20 mg/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Optovin is an activator of TRPA1 [1].

Transient receptor potential cation channel, subfamily A, member 1 (TRPA1) is an ion channel that involved in signal transduction and growth control. TRPA1 signaling plays an important role in chronic inflammation and neuropathic pain [1].

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

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Optovin is a photoactivator of TRPA1. In dorsal root ganglia (DRG) sensory neurons isolated from mice, optovin significantly activated 33% (35/105) of DRG neurons, which was not occurred in the dark. In HEK293T cells transfected with the human TRPA1, optovin activated cells. Optovin activated TRPA1 channels through a photoactivated intermediate that reacted with redox-sensitive cysteine residues in the channel [1].

In wild-type zebrafish embryos, optovin increased light-dependent motor activity with EC50 value of 2 μ M. Optovin induced zebrafish respond to 387-nm light stimuli. Optovin acted on sensory neurons and was not dependent on visual pathways for the increase of light-dependent motor activity. In zebrafish with *trpa1b* mutant, optovin didn't have effect, which suggested *trpa1b* is necessary for optovin activity. In adult mice, optovin induced head-shaking behaviors [1].

Reference:

[1]. Kokel D, Cheung CY, Mills R, et al. Photochemical activation of TRPA1 channels in neurons and animals. *Nat Chem Biol*, 2013, 9(4): 257-263.

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