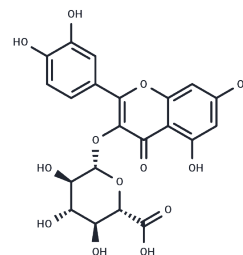


## Miquelianin

## Chemical Properties

CAS No. :	22688-79-5
Formula:	C <sub>21</sub> H <sub>18</sub> O <sub>13</sub>
Molecular Weight:	478.36
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years   In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



## Biological Description

Description	Miquelianin (Quercetin 3-glucuronide) is a potent stilbene oxidase inhibitor, it has antioxidant, anti-atherogenic, and anti-inflammatory activities.
Targets(IC50)	Endogenous Metabolite, stilbene oxidase
In vitro	In vitro studies indicate that miquelianin is able to reach the central nervous system from the small intestine [1]. Miquelianin shows an antioxidant effect in human plasma. At 50 $\mu$ M, miquelianin suppresses the consumption of the three antioxidants lycopene, $\beta$ -carotene, and $\alpha$ -tocopherol significantly [2]. Miquelianin significantly reduces the generation of $\beta$ -amyloid (A $\beta$ ) peptides by primary neuron cultures generated from the Tg2576 AD mouse model. It is also capable of interfering with the initial protein-protein interaction of A $\beta$ 1-40 and A $\beta$ 1-42 [3]. Treatment with 0.1 $\mu$ M miquelianin suppresses ROS generation, cAMP and RAS activation, phosphorylation of ERK1/2 and the expression of HMOX1, MMP2, and MMP9 genes. Miquelianin suppresses invasion of MDA-MB-231 breast cancer cells and MMP-9 induction and inhibits the binding of [3H]-NA to b2-AR [4].
In vivo	Miquelianin treatment, compared to vehicle-control treatment, significantly improves AD-type deficits in hippocampal formation basal synaptic transmission and long-term potentiation [3].

## Solubility Information

Solubility	DMSO: 29.69 mg/mL (62.07 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.09 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0905 mL	10.4524 mL	20.9048 mL
5 mM	0.4181 mL	2.0905 mL	4.181 mL
10 mM	0.209 mL	1.0452 mL	2.0905 mL
50 mM	0.0418 mL	0.209 mL	0.4181 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Terao J, et al. Protection by quercetin and quercetin 3-O-beta-D-glucuronide of peroxynitrite-induced antioxidant consumption in human plasma low-density lipoprotein. *Free Radic Res.* 2001 Dec;35(6):925-31.

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Butterweck V, et al. Flavonoids from *Hypericum perforatum* show antidepressant activity in the forced swimming test. *Planta Med.* 2000 Feb;66(1):3-6.

Yamazaki S, et al. Quercetin-3-O-glucuronide inhibits noradrenaline-promoted invasion of MDA-MB-231 human breast cancer cells by blocking  $\beta$ -adrenergic signaling. *Arch Biochem Biophys.* 2014 Sep 1;557:18-27.

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