

## Polydatin

## Chemical Properties

CAS No. : 27208-80-6

Formula: C<sub>20</sub>H<sub>22</sub>O<sub>8</sub>

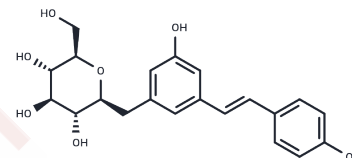
Molecular Weight: 390.38

Appearance: no data available

Storage:

keep away from moisture

Powder: -20°C for 3 years | In solvent: -80°C for 1 year



## Biological Description

Description	Polydatin (Piceid), the glycoside of Resveratrol, is originally isolated from the Chinese herb <i>Polygonum cuspidatum</i> . The compound can inhibit platelet aggregation and elevate the ratios of LDL-C/HDL-C and TC/HDL-C. In the myocardial cell, white blood cell, vascular smooth muscle cell, and endothelial cell, Polydatin can inhibit ICAM-1 expression, elevate Ca <sup>2+</sup> , weaken white blood cell-endothelial cell adhesion, and activate KATP channels.
Targets(IC <sub>50</sub> )	Apoptosis,Mitophagy,NF-κB,Autophagy
In vitro	Polydatin protects cerebral cells from ischemic damages via improvement of microcirculation and inhibition of platelet aggregation. In addition, polydatin inhibits ICAM-1 expression in endothelial cells stimulated by lipopolysaccharide; it also attenuates adhesion between white blood cells and endothelial cells[1].
In vivo	Polydatin could significantly increase the activity of SOD and the heart rate, attenuate myocardial pathological damage, decrease MDA content, slightly increase arterial pressure and GSH-Px activity, reduce intervals of QRS, QT and ST, and lower FFA content [2]. The combination of polydatin and vitamin C could significantly increase arterial pressure and heart rate, decrease QRS interval and slightly reduce ST and QT intervals, significantly attenuate myocardial pathological damage, increase the activities of GSH-Px,T-SOD, Na <sup>+</sup> K <sup>+</sup> -ATPase, and Ca <sup>2+</sup> Mg <sup>2+</sup> -ATPase, elevate phosphocreatine (PCr) and adenosine triphosphate (ATP) contents, slightly increase adenosine diphosphate (ADP) and total adenine nucleotide (TAN) contents and PCr/ATP, and significantly decrease the contents of MDA and FFA, when compared with those in the DOX group.
Cell Research	The effect of polydatin on mMEC viability is evaluated with an MTT assay. mMECs are incubated in the presence or absence of various concentrations of polydatin (25, 50 and 100 µg/mL) and DEX (100 µg/mL) for 24 h. Next, 20 µL of MTT (5 mg/mL) is added to each well and incubated for 4 h. After the supernatants are removed and the formazan is dissolved with 150 µL of DMSO in each well, the optical density (OD) value is measured at 570 nm on a microplate reader[3].

## Solubility Information

## A DRUG SCREENING EXPERT

Solubility	DMSO: 60 mg/mL (153.7 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5616 mL	12.808 mL	25.6161 mL
5 mM	0.5123 mL	2.5616 mL	5.1232 mL
10 mM	0.2562 mL	1.2808 mL	2.5616 mL
50 mM	0.0512 mL	0.2562 mL	0.5123 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.

### Reference

Cheng Y, et al. Involvement of cell adhesion molecules in polydatin protection of brain tissues from ischemia-reperfusion injury. *Brain Res.* 2006 Sep 19;1110(1):193-200.

Geng W, Guo X, Zhang L, et al. Resveratrol inhibits proliferation, migration and invasion of multiple myeloma cells via NEAT1-mediated Wnt/ $\beta$ -catenin signaling pathway. *Resveratrol inhibits proliferation, migration and invasion of multiple myeloma cells via NEAT1-mediated Wnt/ $\beta$ -catenin signaling pathway. Biomedicine & Pharmacotherapy.* 2018 Nov;107:484-494.

Guan S Y, Zhang K, Wang X S, et al. Anxiolytic effects of polydatin through the blockade of neuroinflammation in a chronic pain mouse model. *Molecular Pain.* 2020, 16: 1744806919900717

Wang HL, et al. Synergistic effects of Polydatin and Vitamin C in Inhibiting Cardiotoxicity induced by Doxorubicin in rats. *Fundam Clin Pharmacol.* 2016 Nov 28. [Epub ahead of print]

Polydatin ameliorates Staphylococcus aureus- induced mastitis in mice via inhibiting TLR2- mediated activation of the p38 MAPK/NF- $\kappa$ B pathway[J]. *Acta Pharmacol Sin.* 2017(38):222.

Guan S Y, Zhang K, Wang X S, et al. Anxiolytic effects of polydatin through the blockade of neuroinflammation in a chronic pain mouse model[J]. *Molecular Pain.* 2020, 16: 1744806919900717.

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