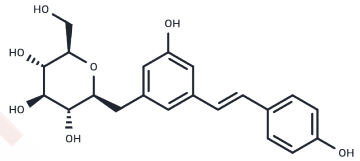
# Data Sheet (Cat.No.T3427)

TargetMol

## Polydatin

### Chemical Properties



CAS No. : 27208-80-6

Formula: C20H22O8

Molecular Weight: 390.38

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

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|---|---|
| Description | Polydatin (Piceid), the glycoside of Resveratrol, is originally isolated from the Chinese herb Polygonum cuspidatum. 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 Ca2+, weaken white blood cell-endothelial cell adhesion, and activate KATP channels. |
| Targets(IC50) | 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+ K+ -ATPase, and Ca2+ Mg2+ -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 dis?solved 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

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|---|---|
| Solubility | DMSO: 60 mg/mL (153.7 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.12 mM),Sonication is recommended.<br>*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.* |

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.

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

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/β-catenin signaling pathway Resveratrol inhibits proliferation, migration and invasion of multiple myeloma cells via NEAT1-mediated Wnt/β-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-κB 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.

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



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