

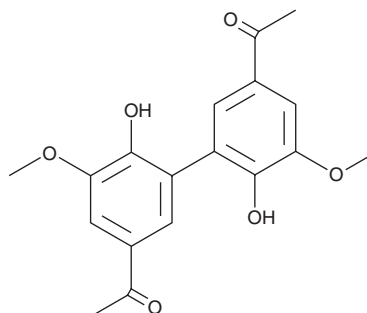
# PRODUCT INFORMATION



## Diapocynin

Item No. 14052

**CAS Registry No.:** 29799-22-2  
**Formal Name:** 1,1'-(6,6'-dihydroxy-5,5'-dimethoxy[1,1'-biphenyl]-3,3'-diyl)bis-ethanone  
**MF:** C<sub>18</sub>H<sub>18</sub>O<sub>6</sub>  
**FW:** 330.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 231, 286 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Diapocynin is supplied as a crystalline solid. A stock solution may be made by dissolving the diapocynin in the solvent of choice, which should be purged with an inert gas. Diapocynin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of diapocynin in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Diapocynin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, diapocynin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Diapocynin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Diapocynin is the dimeric form of the NADPH oxidase inhibitor apocynin (Item No. 11976) that has anti-inflammatory and antioxidant activities. Diapocynin inhibits NADPH oxidase complex assembly and activation, gp91<sup>phox</sup> mRNA expression, and production of the pro-inflammatory cytokines TNF-α and IL-10 in peripheral blood mononuclear cells (PMBCs).<sup>1</sup> It inhibits production of reactive oxygen species (ROS), calcium-independent isoform of phospholipase A<sub>2</sub> (iPLA<sub>2</sub>) function, and reduces Ca<sup>2+</sup> influx through store-operated and stretch-activated channels (SOCs and SACs, respectively) in dystrophic myotubes; all functions in the pathogenic cascade leading to muscular dystrophy.<sup>2</sup> Diapocynin also reverses motor coordination deficits in the LRRK2<sup>R1441G</sup> mouse model of early Parkinson's disease.<sup>3</sup>

### References

1. Kanegae, M.P., Condino-Neto, A., Pedroza, L.A., *et al.* Diapocynin versus apocynin as pretranscriptional inhibitors of NADPH oxidase and cytokine production by peripheral blood mononuclear cells. *Biochem. Biophys. Res. Commun.* **393**(3), 551-554 (2010).
2. Ismail, H.M., Scapozza, L., Ruegg, U.T., *et al.* Diapocynin, a dimer of the NADPH oxidase inhibitor apocynin, reduces ROS production and prevents force loss in eccentrically contracting dystrophic muscle. *PLoS One* **9**(10), e110708 (2014).
3. Dranka, B.P., Gifford, A.N., Ghosh, A., *et al.* Diapocynin prevents early Parkinson's disease symptoms in the leucine-rich repeat kinase 2 (LRRK2<sup>R1441G</sup>) transgenic mouse. *Neurosci. Lett.* **549**, 57-62 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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