

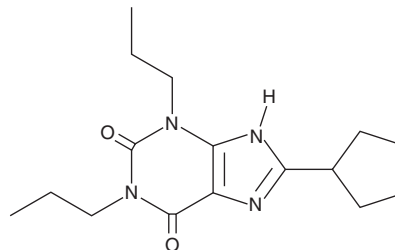
# PRODUCT INFORMATION



## DPCPX

Item No. 21972

**CAS Registry No.:** 102146-07-6  
**Formal Name:** 8-cyclopentyl-3,9-dihydro-1,3-dipropyl-1H-purine-2,6-dione  
**Synonyms:** 8-Cyclopentyl-1,3-dipropylxanthine, 1,3-Dipropyl-8-cyclopentylxanthine, PD 116948  
**MF:** C<sub>16</sub>H<sub>24</sub>N<sub>4</sub>O<sub>2</sub>  
**FW:** 304.4  
**Purity:** ≥98%  
**Supplied as:** A 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

DPCPX is supplied as a solid. A stock solution may be made by dissolving the DPCPX in the solvent of choice, which should be purged with an inert gas. DPCPX is soluble in the organic solvent methanol.

### Description

DPCPX is an adenosine A<sub>1</sub> receptor antagonist (K<sub>i</sub> = 0.3 nM).<sup>1</sup> It is selective for the adenosine A<sub>1</sub> receptor over the adenosine A<sub>2</sub> receptor (K<sub>i</sub> = 340 nM). DPCPX (0.03 and 1 μM) increases the force of contractions in isolated guinea pig left auricles and inhibits decreases in contraction forces induced by the adenosine receptor agonists (-)-N<sup>6</sup>-phenylisopropyladenosine (PIA) or 5'-N-ethylcarboxamidoadenosine (NECA; Item No. 21420) in isolated guinea pig papillary muscles (pA<sub>2</sub>s = 9.3 and 9, respectively).<sup>2</sup> It reverses cardiac arrest induced by adenosine, the adenosine A<sub>1</sub> receptor agonist N<sup>6</sup>-cyclopentyladenosine (CPA; Item No. 21448), or the acetylcholine receptor agonist carbachol (carbamoylcholine; Item No. 14486) in isolated rat atrium.<sup>3</sup> DPCPX (2 and 4 mg/kg) decreases immobility time in the forced swim test and tail suspension test in mice.<sup>4</sup>

### References

1. Lohse, M.J., Klotz, K.N., Lindenborn-Fotinos, J., *et al.* 8-Cyclopentyl-1,3-dipropylxanthine (DPCPX) – a selective high affinity antagonist radioligand for A<sub>1</sub> adenosine receptors. *Naunyn Schmiedebergs Arch. Pharmacol.* **336**(2), 204-210 (1987).
2. von der Leyen, H., Schmitz, W., Scholz, H., *et al.* Effects of 1,3-dipropyl-8-cyclopentylxanthine (DPCPX), a highly selective adenosine receptor antagonist, on force of contraction in guinea-pig atrial and ventricular cardiac preparations. *Naunyn Schmiedebergs Arch. Pharmacol.* **340**(2), 204-209 (1989).
3. Camara, H., da Silva, E.D., Jr., Garcia, A.G., *et al.* Cardiac arrest induced by muscarinic or adenosine receptors agonists is reversed by DPCPX through double mechanism. *Eur. J. Pharmacol.* **819**, 9-15 (2018).
4. Szopa, A., Poleszak, E., Bogatko, K., *et al.* DPCPX, a selective adenosine A1 receptor antagonist, enhances the antidepressant-like effects of imipramine, escitalopram, and reboxetine in mice behavioral tests. *Naunyn Schmiedebergs Arch. Pharmacol.* **391**(12), 1361-1371 (2018).

#### 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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