# PRODUCT INFORMATION



`OH

Dipyridamole-d<sub>16</sub>

Item No. 30138

CAS Registry No.:	2712261-50-0	
Formal Name:	2,2',2",2"'-[(4,8-di-1-	
i offilar Name.	piperidinylpyrimido[5,4-d]pyrimidine-2,6-	N > N
	diyl)dinitrilo]tetrakis-ethanol-1,1,2,2-d <sub>4</sub>	
MF:		N Y
	$C_{24}H_{24}D_{16}N_8O_4$	
FW:	520.7	Ń, Ń
Chemical Purity:	≥95% (Dipyridamole)	
Deuterium		
Incorporation:	≥99% deuterated forms (d₁-d₁₄); ≤1% d₀	HONN
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

Dipyridamole-d<sub>16</sub> is intended for use as an internal standard for the quantification of dipyridamole (Item No. 18189) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Dipyridamole- $d_{16}$  is supplied as a solid. A stock solution may be made by dissolving the dipyridamole- $d_{16}$ in the solvent of choice, which should be purged with an inert gas. Dipyridamole-d<sub>16</sub> is soluble in methanol and DMSO.

# Description

Dipyridamole is a phosphodiesterase 5A (PDE5A) inhibitor (IC<sub>50</sub> = 574 nM) that prevents platelet aggregation by increasing cGMP levels and blocking the reuptake of adenosine via red blood cells.<sup>1,2</sup> It also scavenges the free radicals that inactivate cyclooxygenase, leading to the inhibition of platelet activation and thrombin generation.<sup>1</sup> Dipyridamole has also been shown to inhibit PDE11A with an  $IC_{50}$  value of 370 nM and equilibrative nucleoside transporter 1 (ENT1) with a K, value of 8.18 nM.<sup>3,4</sup> Formulations containing dipyridamole in combination with aspirin have been used to prevent stroke and other cardiovascular events.

# References

- 1. Rondina, M.T. and Weyrich, A.S. Targeting phosphodiesterases in anti-platelet therapy. Antiplatelet Agents. Handbook of Experimental Pharmacology. Gresele, P., Born, G., Patrono, C., Page, C., editors, 1st edition, Springer (2012).
- 2. Watanabe, N., Adachi, H., Takase, Y., et al. 4-(3-Chloro-4-methoxybenzyl)aminophthalazines: Synthesis and inhibitory activity toward phosphodiesterase 5. J. Med. Chem. 43(13), 2523-2529 (2000).
- 3. Fawcett, L., Baxendale, R., Stacey, P., et al. Molecular cloning and characterization of a distinct human phosphodiesterase gene family: PDE11A. Proc. Natl. Acad. Sci. USA 97(7), 3702-3707 (2000).
- 4. Lin, W. and Buolamwini, J.K. Synthesis, flow cytometric evaluation, and identification of highly potent dipyridamole analogues as equilibrative nucleoside transporter 1 inhibitors. J. Med. Chem. 50(16), 3906-3920 (2007).

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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