

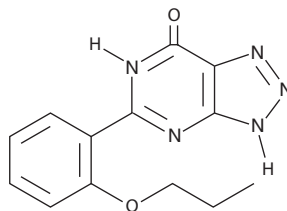
Product Information



Zaprinast

Catalog No. 10010421

CAS Registry No.: 37762-06-4
Formal Name: 3,6-dihydro-5-(2-propoxyphenyl)-7H-1,2,3-triazolo[4,5-d]pyrimidin-7-one
Synonyms: 2-(o-Propoxyphenyl)-8-azapurin-6-one, M&B 22,948
MF: C₁₃H₁₃N₅O₂
FW: 271.3
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that zaprinast be stored as supplied at -20°C. It should be stable for at least one year.

Zaprinast is supplied as a crystalline solid. A stock solution may be made by dissolving the zaprinast in an organic solvent purged with an inert gas. Zaprinast is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of zaprinast in these solvents is approximately 10 mg/ml.

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

The cyclic nucleotide second messenger guanosine 3'5'-cyclic monophosphate (cGMP) is an important mediator of signal transduction and hence a wide range of cellular processes. It can be generated by soluble guanylyl cyclase in response to binding of nitric oxide and degraded *via* members of the phosphodiesterase (PDE) protein family. Zaprinast, the compound from which sildenafil (Viagra™) was developed, is a cGMP-specific phosphodiesterase inhibitor. It moderately inhibits PDE5 and PDE6 with IC₅₀ values of 0.5-0.76 and 0.15 μM, respectively, and weakly inhibits PDE9, PDE10, and PDE11 with IC₅₀ values of 35, 22, and 11-33 μM, respectively.^{1,2} Zaprinast therefore enhances the vasodilatory effects of nitric oxide in a range of vascular tissues by prolonging the cGMP-mediated activation of cGMP-dependent protein kinase.² Zaprinast also activates both the rat and human G protein-coupled receptor, GPR35 with EC₅₀ values of 16 nM and 0.84 μM, respectively.³

References

1. Nakamizo, T., Kawamata, J., Yoshida, K., *et al.* Phosphodiesterase inhibitors are neuroprotective to cultured spinal motor neurons. *J. Neurosci. Res.* **71**, 485-495 (2003).
2. Gibson, A. Phosphodiesterase 5 inhibitors and nitergic transmission-from zaprinast to sildenafil. *Eur. J. Pharmacol.* **411**, 1-10 (2001).
3. Taniguchi, Y., Tonai-Kachi, H., and Shinjo, K. Zaprinast, a well-known cyclic guanosine monophosphate-specific phosphodiesterase inhibitor, is an agonist for GPR35. *FEBS Lett.* **580**, 5003-5008 (2006).

Related Products

Quercetin - Cat. No. 10005169 • Sildenafil-d₈ Citrate - Cat. No. 10010586 • Rolipram - Cat. No. 10011132

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 01/13/2009

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com