PRODUCT INFORMATION



Oxyphenbutazone

Item No. 18723

CAS Registry No.:	129-20-4	
Formal Name:	4-butyl-1-(4-hydroxyphenyl)-2-phenyl-	
Synonyms:	3,5-pyrazolidinedione G 27202, <i>p</i> -Hydroxyphenylbutazone, NSC 526053, Ro 04-4410	ОН
MF:	C ₁₉ H ₂₀ N ₂ O ₃	
FW:	324.4	
Purity:	≥98%	\rightarrow
UV/Vis.:	λ _{max} : 240 nm	/ ``o
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

Oxyphenbutazone is supplied as a crystalline solid. A stock solution may be made by dissolving the oxyphenbutazone in the solvent of choice, which should be purged with an inert gas. Oxyphenbutazone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of oxyphenbutazone in ethanol is approximately 50 mg/ml and approximately 25 mg/ml in DMSO and DMF. It is also soluble in water. The solubility of oxyphenbutazone in water is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of oxyphenbutazone can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of oxyphenbutazone in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Oxyphenbutazone is a non-steroidal anti-inflammatory drug (NSAID) and an active metabolite of the NSAID and COX inhibitor phenylbutazone (Item No. 70400).¹ It is formed from phenylbutazone by the cytochrome P450 (CYP) isoform CYP2C9.² Oxyphenbutazone is an inhibitor of organic anion transporter 1 (OAT1; K_i = 32 μ M).³ It reduces IL-6-induced proliferation of MH60 B cells ($IC_{50} = 7.5 \,\mu$ M).⁴ Oxyphenbutazone (1.5 μ M) potentiates neurite growth induced by nerve growth factor (NGF) in NS-1 cells.⁵ It is active against non-replicating M. tuberculosis when used at a concentration of 12.5 μ M.⁶ Oxyphenbutazone (300 and 100 mg/kg, respectively) reduces knee joint swelling in a rat model of silver nitrate-induced arthritis and decreases distal joint swelling and paw edema in a rat model of mycoplasma-induced polyarthritis.¹

References

- 1. Wilhelmi, G. Jpn. J. Pharmacol. 15(2), 187-198 (1965).
- 2. Miners, J.P., and Birkett, D.J. Br. J. Clin. Pharmacol. 45(6), 525-538 (1998).
- 3. Apiwattanakul, N., Sekine, T., Chairoungda, A., et al. Mol. Pharmacol. 55(5), 847-854 (2015).
- 4. Kang, B.-S., Chung, E.-Y., Yun, Y.-P., et al. Biol. Pharm. Bull. 24(6), 701-703 (2001).
- 5. Yeyeodu, S.T., Witherspoon, S.M., Gilyazova, N., et al. Curr. Chem. Genomics 4, 74-83 (2010).
- 6. Gold, B., Pingle, M., Brickner, S.J., et al. Proc. Natl. Acad. Sci. USA 109(40), 16004-16011 (2012).

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

SAFFTY 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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1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM