

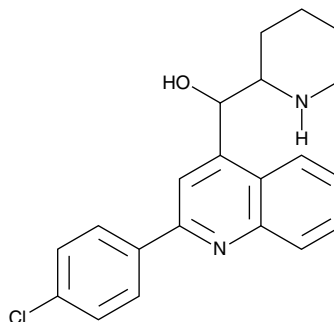
Product Information



Vacquinol-1

Item No. 16321

CAS Registry No.:	5428-80-8
Formal Name:	2-(4-chlorophenyl)- α -2-piperidinyl-4-quinolinemethanol
Synonym:	NSC 13316
MF:	C ₂₁ H ₂₁ ClN ₂ O
FW:	352.9
Purity:	≥98%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max} : 262 nm



Laboratory Procedures

For long term storage, we suggest that vacquinol-1 be stored as supplied at -20°C. It should be stable for at least two years.

Vacquinol-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the vacquinol-1 in the solvent of choice. Vacquinol-1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of vacquinol-1 in these solvents is approximately 0.25, 1, and 10 mg/ml.

Vacquinol-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, vacquinol-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Vacquinol-1 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.

Vacquinols are a new class of quinine-derivatives that stimulate death in glioblastoma cells by massive macropinocytotic vacuolization, ATP depletion, and cytoplasmic membrane rupture.¹ A key effector of vacquinols is MAPK kinase 4 (MKK4).¹ Vacquinol-1 is an activator of MKK4-dependent macropinocytotic cell death in glioblastoma cells.¹ It induces ATP depletion in glioblastoma cells (IC₅₀ = 3.14 μ M at 1 day) without affecting fibroblasts, embryonic stem cells, or osteosarcoma cells.¹ Vacquinol-1 is orally bioavailable with good brain penetrance and excellent pharmacokinetics.¹ Oral administration of vacquinol-1 (20 mg/kg once daily for five days) substantially impairs the growth of engrafted glioblastoma cell tumors in mice and prolongs survival.¹

Reference

1. Kitambi, S.S., Toledo, E.M., Usoskin, D., *et al.* Vulnerability of glioblastoma cells to catastrophic vacuolization and death induced by a small molecule. *Cell* **157**(2), 313-328 (2014).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16321

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

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 Safety Data Sheet, which has been sent via email to 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.

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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