Product Information

Phenamil (methanesulfonate)
Item No. 14308

CAS Registry No.: 1161-94-0
Formal Name: 3,5-diamino-6-chloro-N-{[imino(phenylamino)methyl]- \[2-pyrazinecarboxamide, monomethanesulfonate
MF: C_{12}H_{12}ClN_{7}O \cdot CH_{3}SO_{3}H
FW: 401.8
Purity: \geq 98%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: \lambda_{max} 289, 362 nm

Laboratory Procedures
For long term storage, we suggest that phenamil (methanesulfonate) be stored as supplied at -20°C. It should be stable for at least two years.

Phenamil (methanesulfonate) is supplied as a crystalline solid. A stock solution may be made by dissolving the phenamil (methanesulfonate) in the solvent of choice. Phenamil (methanesulfonate) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of phenamil (methanesulfonate) in these solvents is approximately 1 and 0.1 mg/ml, respectively.

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

Transient receptor potential polycystin-L (TRPP3) is a member of the TRP superfamily of cation channels that is localized to a subset of taste receptor cells in the tongue and to neurons surrounding the central canal of the spinal cord. Phenamil is a second generation analog of amiloride (hydrochloride) (Item No. 14409), the prototypical epithelial sodium channel (ENaC) blocker that inhibits TRPP3-mediated Ca^{2+}-activated currents with an IC_{50} value of 0.14 \mu M.\textsuperscript{1} It is also known to inhibit ENaC (IC_{50} = 10 nM).\textsuperscript{2} ENaC blockers such as phenamil have been proposed as a therapy to restore mucus clearance in cystic fibrosis airways. Phenamil inhibits active sodium transport of human and ovine bronchial epithelial cells with IC_{50} values of 75 and 116 nM, respectively.\textsuperscript{3}

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/14308

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

SAYFETY 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.

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