Certificate of Analysis

Product Name: **Amiloride hydrochloride** **Catalog No.: 0890** **Batch No.: 3**

CAS Number: 2016-88-8 EC Number: 217-958-2

IUPAC Name: 3,5-Diamino-*N*-(aminoiminomethyl)-6-chloropyrazinecarboxamide hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_6H_8ClN_7O.HCl.2H_2O$

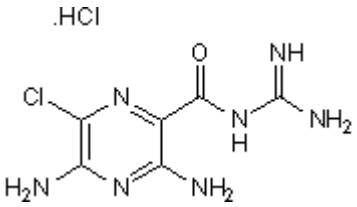
Batch Molecular Weight: 302.12

Physical Appearance: Yellow crystalline solid

Solubility: water to 10 mM with gentle warming
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 291 - 293°C

HPLC: Shows 98.2% purity

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	23.85	4.33	32.45
Found	23.84	4.24	32.59

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Description:

Na^+ channel blocker. Defines the I_{2A}-amiloride sensitive and I_{2B}-amiloride insensitive imidazoline binding Blocks TRPP3, acid sensing- (ASIC) and mechanogated membrane-ion channels, as well as the Na^+/H^+ exchanger. Also inhibits urokinase-type plasminogen activator (uPA); has no effect on tissue-type plasminogen activator.

Physical and Chemical Properties:

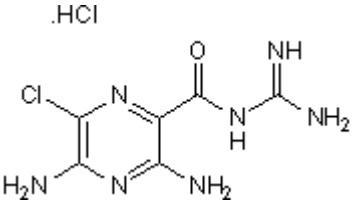
Batch Molecular Formula: $C_6H_8ClN_7O.HCl.2H_2O$

Batch Molecular Weight: 302.12

Physical Appearance: Yellow crystalline solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 10 mM with gentle warming
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Vassalli *et al* (1987) Amiloride selectively inhibits the urokinase-type plasminogen activator. ***214*** 187. PMID: 3106085.

Kleyman *et al* (1988) Amiloride and its analogues as tools in the study of ion transport. J.Membr.Biol. ***105*** 1. PMID: 2852254.

Ernsberger *et al* (1992) A second generation of centrally acting antihypertensive agents act on putative I_1-imidazoline receptors. J.Cardiovasc.Pharmacol. ***20*** S1.

Hamill and McBride (1996) The pharmacology of mechanogated membrane ion channels. Pharmacol.Rev. ***48*** 231. PMID: 8804105.

Dai *et al* (2007) Inhibition of $TRPP_3$ channel by amiloride and analogs. Mol.Pharmacol. ***72*** 1576. PMID: 17804601.

Jetti *et al* (2010) Evaluation of the role of nitric oxide in acid sensing ion channel mediated cell death. Nitric Oxide ***22*** 213. PMID: 20045740.