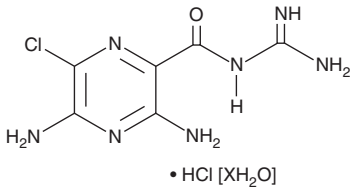
PRODUCT INFORMATION

Amiloride (hydrochloride) (hydrate)

Item No. 14409

Formal Name: 3,5-diamino-N-(aminoiminomethyl)-6-chloro-2-pyrazinecarboxamide, monohydrochloride hydrate
Synonym: MK-870
MF: $C_6H_8ClN_7O \bullet HCl\ [XH_2O]$
FW: 266.1
Purity: ≥98%
UV/Vis.: λ_{max}: 215, 287, 362 nm
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

Amiloride (hydrochloride) (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the amiloride (hydrochloride) (hydrate) in the solvent of choice, which should be purged with an inert gas. Amiloride (hydrochloride) (hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of amiloride (hydrochloride) (hydrate) in these solvents is approximately 30 mg/ml.

Amiloride (hydrochloride) (hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, amiloride (hydrochloride) (hydrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Amiloride (hydrochloride) (hydrate) 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.

Description

Amiloride is a potassium-sparing diuretic.[1,2] It is an inhibitor of the epithelial sodium channel (ENaC; $K_{0.5}$ = 2.6 µM for recombinant δENaC expressed in *X. laevis* oocytes).[3] It inhibits sodium transport from bovine kidney cortex membrane vesicles with an IC_{50} value of 0.4 µM.[4] Amiloride inhibits the urokinase-type plasminogen activator (u-PA; K_i = 7 µM) and cardiac Na^+/H^+-ATPase (IC_{50} = 83.8 µM).[5,6] It also inhibits calcium currents mediated by transient receptor potential polycystin 3 (TRPP3; IC_{50} = 143 µM).[7] Amiloride (30 mg/kg) reduces mean arterial pressure in spontaneously hypertensive, but not normotensive, rats.[8] Formulations containing amiloride have been used alone, and in combination with thiazide diuretics, in the treatment of hypertension.

References

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