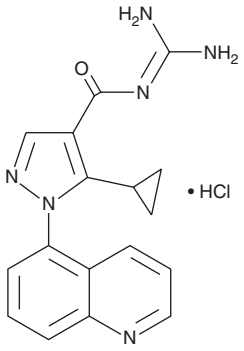
PRODUCT INFORMATION

Zoniporide (hydrochloride)

Item No. 16004



CAS Registry No.:	241800-97-5
Formal Name:	N-(aminoiminomethyl)-5-cyclopropyl-1-(5-quinolinyl)-1H-pyrazole-4-carboxamide, monohydrochloride
Synonym:	CP 597,396
MF:	$C_{17}H_{16}N_6O$ • HCl
FW:	356.8
Purity:	≥98%
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

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

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

The sodium-hydrogen exchanger isoform-1 (NHE-1) is the most predominant isoform of the Na^+/H^+ exchanger and is expressed in the heart where it contributes to cardiomyocyte pH homeostasis.[1] It plays an important role in the myocardial response to ischemia-reperfusion. Zoniporide inhibits human NHE-1 with an IC_{50} value of 14 nM, displaying greater than 150-fold selectivity over other NHE isoforms.[2] It has been shown to reduce infarct size in a rabbit myocardial ischemia-reperfusion model without adversely affecting hemodynamics or cardiac function.[1] In isolated heart, zoniporide reduced infarct size with an EC_{50} value of 0.25 nM.[2]

References

1. Masereel, B., Pochet, L., and Laeckmann, D. An overview of inhibitors of Na^+/H^+ exchanger. *Eur. J. Med. Chem.* **38(6)**, 547-554 (2003).
2. Tracey, W.R., Allen, M.C., Frazier, D.E., *et al.* Zoniporide: A potent and selective inhibitor of the human sodium-hydrogen exchanger isoform 1 (NHE-1). *Cardiovasc. Drug Rev.* **21(1)**, 17-32 (2003).

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