

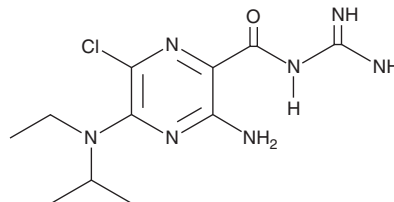
# PRODUCT INFORMATION



## 5-(N-ethyl-N-isopropyl)-Amiloride

Item No. 14406

**CAS Registry No.:** 1154-25-2  
**Formal Name:** 3-amino-N-(aminoiminomethyl)-6-chloro-5-[ethyl(1-methylethyl)amino]-2-pyrazinecarboxamide  
**Synonyms:** EIPA, L-593,754, MH 12-43  
**MF:** C<sub>11</sub>H<sub>18</sub>ClN<sub>7</sub>O  
**FW:** 299.8  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 230, 291, 380 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

5-(N-ethyl-N-isopropyl)-Amiloride (EIPA) is supplied as a crystalline solid. A stock solution may be made by dissolving the EIPA in the solvent of choice. EIPA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of EIPA in these solvents is approximately 2, 14, and 20 mg/ml, respectively.

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

### Description

Sodium-hydrogen exchangers (NHE) are involved in maintaining sodium and pH balance in a variety of tissues. They are also known as sodium-hydrogen antiporters and solute carrier family 9 members. EIPA is a potent inhibitor of several NHE isoforms, inhibiting NHE1, NHE2, NHE3, and NHE5 with K<sub>i</sub> values of 0.02, 0.5, 2.4, and 0.42 μM, respectively.<sup>1,2</sup> It less effectively inhibits NHE4 (IC<sub>50</sub> ≥10 μM).<sup>1</sup> EIPA is commonly used at a concentration of 5-10 μM to inhibit cellular HNE activity.<sup>3,4</sup>

### References

1. Masereel, B., Pochet, L., and Laeckmann, D. An overview of inhibitors of Na<sup>+</sup>/H<sup>+</sup> exchanger. *Eur. J. Med. Chem.* **38(6)**, 547-554 (2003).
2. Attaphitaya, S., Park, K., and Melvin, J.E. Molecular cloning and functional expression of a rat Na<sup>+</sup>/H<sup>+</sup> exchanger (NHE5) highly expressed in brain. *J. Biol. Chem.* **274(7)**, 4383-4388 (1999).
3. Hwang, S.-M., Koo, N.-Y., Jin, M., et al. Intracellular acidification is associated with changes in free cytosolic calcium and inhibition of action potentials in rat trigeminal ganglion. *J. Biol. Chem.* **286(3)**, 1719-1729 (2011).
4. Xue, L., Aihara, E., Wang, T.C., et al. Trefoil factor 2 requires Na/H exchanger 2 activity to enhance mouse gastric epithelial repair. *J. Biol. Chem.* **286(44)**, 38375-38382 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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