

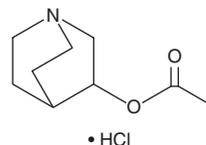
# PRODUCT INFORMATION



## Aceclidine (hydrochloride)

Item No. 17910

**CAS Registry No.:** 6109-70-2  
**Formal Name:** 1-azabicyclo[2.2.2]octan-3-ol, 3-acetate, monohydrochloride  
**MF:** C<sub>9</sub>H<sub>15</sub>NO<sub>2</sub> • HCl  
**FW:** 205.7  
**Purity:** ≥95%  
**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

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

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of aceclidine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of aceclidine (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Aceclidine is an agonist of muscarinic receptors ( $EC_{50} = 1.8-17 \mu\text{M}$  for human  $M_2$ ).<sup>1</sup> It induces contraction of iris sphincter muscle, resulting in miosis.<sup>2,3</sup> Aceclidine has applications in glaucoma therapy and in basic research regarding muscarinic receptor signaling.<sup>1,2,4</sup>

### References

1. Griffin, M.T., Figueroa, K.W., Liller, S., *et al.* Estimation of agonist activity at G protein-coupled receptors: analysis of  $M_2$  muscarinic receptor signaling through  $G_{i/o}$ ,  $G_s$ , and  $G_{15}$ . *J. Pharmacol. Exp. Ther.* **321(3)**, 1193-1207 (2007).
2. Ishikawa, H., Desantis, L., and Patil, P.N. Selectivity of muscarinic agonists including (+/-)-aceclidine and antimuscarinics on the human intraocular muscles. *J. Ocul. Pharmacol. Ther.* **14(4)**, 363-373 (1998).
3. Smith, S.A. and Smith, S.E. Factors determining the potency of cholinomimetic miotic drugs and their effect upon the light reflex in man. *Br. J. Clin. Pharmac.* **6**, 149-153 (1978).
4. Shannon, H.E., Hart, J.C., Bymaster, F.P., *et al.* Muscarinic receptor agonists, like dopamine receptor antagonist antipsychotics, inhibit conditioned avoidance response in rats. *J. Pharmacol. Exp. Ther.* **290(2)**, 901-907 (1999).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/02/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM