

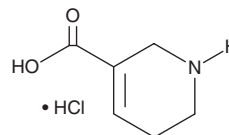
# PRODUCT INFORMATION



## Guvacine (hydrochloride)

Item No. 23361

CAS Registry No.: 6027-91-4  
Formal Name: 1,2,5,6-tetrahydro-3-pyridinecarboxylic acid, monohydrochloride  
MF:  $C_6H_9NO_2 \cdot HCl$   
FW: 163.6  
Purity:  $\geq 95\%$   
Supplied as: A crystalline solid  
Storage:  $-20^\circ C$   
Stability:  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Guvacine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the guvacine (hydrochloride) in the solvent of choice. Guvacine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of guvacine (hydrochloride) in these solvents is approximately 0.5, 20, and 0.25 mg/ml, respectively.

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 guvacine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of guvacine (hydrochloride) in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Guvacine is an amino acid found in *A. catechu* (Betel nut).<sup>1</sup> It competitively inhibits GABA uptake ( $IC_{50} = 10 \mu M$ ;  $K_i = 14 \mu M$ ) in rat hippocampal brain slices.<sup>1,2</sup> *In vivo*, guvacine, at doses ranging from 50-100 mg/kg, decreases spontaneous activity in mice.<sup>1</sup> Administration of guvacine also decreases tail flick reaction time in a rat model of morphine analgesia.<sup>3</sup>

### References

1. Johnston, G.A., Krogsgaard-Larsen, P., and Stephanson, A. Betel nut constituents as inhibitors of  $\gamma$ -aminobutyric acid uptake. *Nature* **258**(5536), 627-628 (1975).
2. Pavia, M.R., Lobbetael, S.J., Nugiel, D., *et al.* Structure-activity studies on benzhydryl-containing nipecotic acid and guvacine derivatives as potent, orally-active inhibitors of GABA uptake. *J. Med. Chem.* **35**(22), 4238-4248 (1992).
3. Mantegazza, P., Tammiso, R., Vicentini, L., *et al.* Nipecotic acid and guvacine antagonism on morphine analgesia in rats. *Pharmacol. Res. Commun.* **11**(8), 657-662 (1979).

#### 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, 12/22/2022

#### 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