

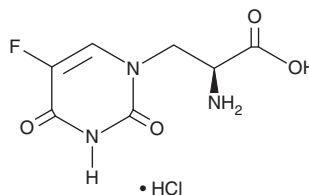
# PRODUCT INFORMATION



## (S)-(-)-5-Fluorowillardiine (hydrochloride)

Item No. 37372

**CAS Registry No.:** 1321546-70-6  
**Formal Name:**  $\alpha$ -amino-5-fluoro-3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinepropanoic acid, monohydrochloride  
**MF:**  $C_7H_8FN_3O_4 \cdot HCl$   
**FW:** 253.6  
**Purity:**  $\geq 95\%$   
**Supplied as:** A 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

(S)-(-)-5-Fluorowillardiine (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the (S)-(-)-5-fluorowillardiine (hydrochloride) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

(S)-(-)-5-Fluorowillardiine is an agonist of the ionotropic glutamate receptors GluA1 and GluA2.<sup>1</sup> It selectively activates GluA1 and GluA2 over GluA3 and GluA4 in voltage-clamp assays using *X. laevis* oocytes expressing the flip isoforms of the rat receptors ( $EC_{50}$ s = 0.382, 0.463, 20.9, and 11.9  $\mu M$ , respectively). (S)-(-)-5-Fluorowillardiine induces evoked population spikes in isolated rat CA1 hippocampal slices in an *in vitro* model of seizure-like activity ( $EC_{50}$  = 0.03-0.08  $\mu M$ ).<sup>2</sup> It induces cytotoxicity in primary mouse cortical neurons in a concentration-dependent manner, an effect that can be reversed by the GluA5 antagonist LY293558 or GluK2 antagonist NS-102.<sup>3</sup>

### References

- Greenwood, J.R., Mewett, K.N., Allan, R.D., *et al.* 3-hydroxypyridazine 1-oxides as carboxylate bioisosteres: A new series of subtype-selective AMPA receptor agonists. *Neuropharmacology* **51(1)**, 52-59 (2006).
- Zhai, J., Zhou, Y.-Y., and Lagrutta, A. Sensitivity, specificity and limitation of *in vitro* hippocampal slice and neuron-based assays for assessment of drug-induced seizure liability. *Toxicol. Appl. Pharmacol.* **430**, 115725 (2021).
- Larm, J.A., Cheung, N.S., and Beart, P.M. (S)-5-fluorowillardiine-mediated neurotoxicity in cultured murine cortical neurones occurs via AMPA and kainate receptors. *Eur. J. Pharmacol.* **314(1-2)**, 249-254 (1996).

#### 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, 01/02/2024

#### 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