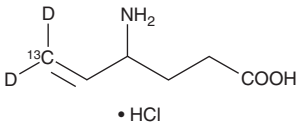
PRODUCT INFORMATION

Vigabatrin-^{13}C-d$_2$ (hydrochloride)

Item No. 26672

CAS Registry No.: 2749628-08-6
Formal Name: 4-aminohex-5-enoic-6-^{13}C-6,6-d$_2$ acid, monohydrochloride
Synonym: γ-Vinyl GABA-^{13}C-d$_2$
MF: $C_5[^{13}C]H_9D_2NO_2 \bullet HCl$
FW: 168.6
Chemical Purity: ≥98% (Vigabatrin)
Deuterium Incorporation: ≥99% deuterated forms (d$_1$-d$_2$); ≤1% d$_0$
Supplied as: A 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

Vigabatrin-^{13}C-d$_2$ (hydrochloride) is intended for use as an internal standard for the quantification of vigabatrin (Item No. 9000976) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Description

Vigabatrin is an irreversible GABA transaminase (GABA-T) inhibitor.[1] It inhibits rat brain GABA-T when used at a concentration of 0.1 mM. Vigabatrin is selective for rat brain GABA-T over *P. fluorescens* GABA-T at 10 mM and is 100-fold selective over glutamic acid decarboxylase (GAD). Vigabatrin (1,500 mg/kg) decreases brain GABA-T activity without affecting GAD activity in mice.[2] It reduces the incidence of myoclonus in a mouse model of audiogenic seizures.[3] Vigabatrin also increases the electroconvulsive threshold in mouse model of maximal electroshock-induced seizures and reduces the number of clonic convulsions induced by pentylenetetrazol (PTZ; Item No. 18682) in mice.[4] Formulations containing vigabatrin have been used in the treatment of seizures and infantile spasms.

References

1. Lippert, B., Metcalf, B.W., Jung, M.J., *et al.* 4-Amino-hex-5-enoic acid, a selective catalytic inhibitor of 4-aminobutyric-acid aminotransferase in mammalian brain. *Eur. J. Biochem.* **74(3)**, 441-445 (1977).
2. Jung, M.J., Lippert, B., Metcalf, B.W., *et al.* g-Vinyl GABA (4-amino-hex-5-enoic acid), A new selective irreversible inhibitor of GABA-T: Effects on brain GABA metabolism in mice. *J. Neurochem.* **29(5)**, 797-802 (1977).
3. Meldrum, B.S. and Murugaiah, K. Anticonvulsant action in mice with sound-induced seizures of the optical isomers of g-vinyl GABA. *Eur. J. Pharm.* **89(1-2)**, 149-152 (1983).
4. Luszczki, J.J. and Czuczwar, S.J. Isobolographic characterization of interactions between vigabatrin and tiagabine in two experimental models of epilepsy. Prog. Neuropsychopharmacol. *Biol. Psychiatry* **31(2)**, 529-538 (2007).

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