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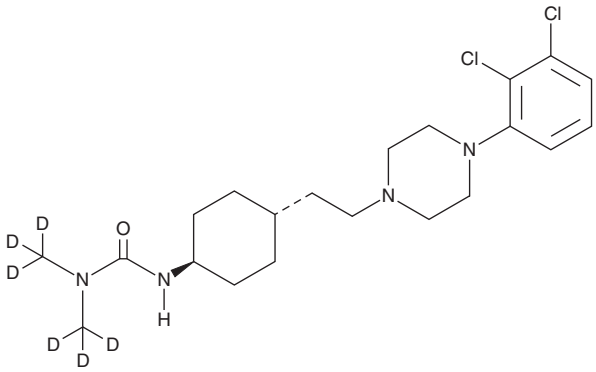
PRODUCT INFORMATION

Cariprazine-d_6

Item No. 29449

CAS Registry No.:	1308278-67-2
Formal Name:	N'-[*trans*-4-[2-[4-(2,3-dichlorophenyl)-1-piperazinyl]ethyl]cyclohexyl]-N,N-di(methyl-d_3)-urea
MF:	$C_{21}H_{26}D_6Cl_2N_4O$
FW:	433.5
Chemical Purity:	≥98% (Cariprazine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_6); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Cariprazine-d_6 is intended for use as an internal standard for the quantification of cariprazine (Item No. 24025) 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).

Cariprazine-d_6 is supplied as a solid. A stock solution may be made by dissolving the cariprazine-d_6 in the solvent of choice, which should be purged with an inert gas. Cariprazine-d_6 is soluble in the organic solvent DMSO.

Description

Cariprazine is an atypical antipsychotic.[1] It binds to dopamine D_{2L}, D_{2S}, and D_3 receptors, the serotonin (5-HT) receptor subtypes 5-HT_{1A}, 5-HT_{2A}, and 5-HT_{2B}, and histamine H_1 and sigma-1 (σ_1) receptors (K_is = 0.085-23.44 nM).[2] Cariprazine is an antagonist of dopamine D_2 and D_3 receptors (K_bs = 0.759 and 0.316 nM, respectively, in dopamine-induced [^{35}S]GTPγS binding assays). It is also a partial agonist at these receptors, stimulating inositol phosphate production in murine A9 cells expressing human D_{2L} receptors (EC_{50} = 3.16 nM) and inhibiting forskolin-induced cAMP accumulation in CHO cells expressing human D_3 receptors (EC_{50} = 2.63 nM). Cariprazine inhibits amphetamine-induced hyperactivity and the conditioned avoidance response in rats (ED_{50}s = 0.12 and 0.84 mg/kg, respectively).[3] It also inhibits scopolamine-induced learning deficits in a water labyrinth learning test in rats when administered at doses ranging from 0.02 to 0.08 mg/kg. Formulations containing cariprazine have been used in the treatment of schizophrenia, as well as manic, depressive, or mixed episodes associated with bipolar I disorder.

References

1. Mészáros, G.P., Agai-Csongor, E., and Kapás, M. Sensitive LC-MS/MS methods for the quantification of RGH-188 and its active metabolites, desmethyl- and didesmethyl-RGH-188 in human plasma and urine. *J. Pharm. Biomed. Anal.* **48(2)**, 388-397 (2008).
2. Kiss, B., Horváth, A., Némethy, Z., *et al.* Cariprazine (RGH-188), a dopamine D3 receptor-preferring, D3/D2 dopamine receptor antagonist-partial agonist antipsychotic candidate: In vitro and neurochemical profile. *J. Pharmacol. Exp. Ther.* **333(1)**, 328-340 (2010).
3. Gyertyán, I., Kiss, B., Sághy, K., *et al.* Cariprazine (RGH-188), a potent D_3/D_2 dopamine receptor partial agonist, binds to dopamine D_3 receptors *in vivo* and shows antipsychotic-like and procognitive effects in rodents. *Neurochem. Int.* **59(6)**, 925-935 (2011).

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