

# Produktinformation



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# PRODUCT INFORMATION



## **Cariprazine**

Item No. 31446

CAS Registry No.: 839712-12-8

Formal Name: N'-[trans-4-[2-[4-(2,3-dichlorophenyl)-

1-piperazinyl]ethyl]cyclohexyl]-N,N-

dimethyl-urea

Synonym: **RGH-188** 

MF:  $C_{21}H_{32}CI_2N_4O$ 

FW: 427.4 Purity:

λ<sub>max</sub>: 219, 258 nm UV/Vis.: Supplied as: A crystalline solid

-20°C Storage: Stability: ≥2 years

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

## **Laboratory Procedures**

Cariprazine is supplied as a crystalline solid. A stock solution may be made by dissolving the cariprazine in the solvent of choice, which should be purged with an inert gas. Cariprazine is soluble in the organic solvent chloroform at a concentration of 10 mg/ml.

#### 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<sub>1A</sub>, 5-HT<sub>2A</sub>, and 5-HT<sub>2B</sub>, and histamine H<sub>1</sub> and sigma-1 ( $\sigma_1$ ) receptors (K<sub>1</sub>s = 0.085-23.44 nM).<sup>2</sup> Cariprazine is an antagonist of dopamine D<sub>2</sub> and D<sub>3</sub> receptors  $(K_p s = 0.759 \text{ and } 0.316 \text{ nM}, \text{ respectively, in dopamine-induced } [^{35}S]GTP\gamma S \text{ binding assays)}$ . It is also a partial agonist at these receptors, stimulating inositol phosphate production in murine A9 cells expressing human  $D_{2L}$  receptors (EC<sub>50</sub> = 3.16 nM) and inhibiting forskolin-induced cAMP accumulation in CHO cells expressing human  $D_3$  receptors (EC<sub>50</sub> = 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).<sup>3</sup> 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).
- Gyertyán, I., Kiss, B., Sághy, K., et al. Cariprazine (RGH-188), a potent D<sub>3</sub>/D<sub>2</sub> dopamine receptor partial agonist, binds to dopamine D<sub>3</sub> receptors in vivo and shows antipsychotic-like and procognitive effects in rodents. Neurochem. Int. 59(6), 925-935 (2011).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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.

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