# Vanoxerine

**Cat. No.:** HY-13217A

**CAS No.:** 67469-69-6

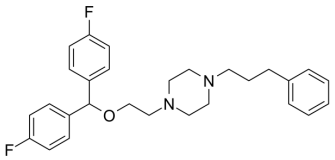
**Molecular Formula:** $C_{28}H_{32}F_2N_2O$

**Molecular Weight:** 450.56

**Target:** Dopamine Transporter

**Pathway:** Neuronal Signaling

**Storage:** Please store the product under the recommended conditions in the Certificate of Analysis.




## BIOLOGICAL ACTIVITY

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| **Description** | Vanoxerine (GBR-12909) is a competitive, potent, and highly selective dopamine reuptake inhibitor ($K_i$=1 nM). Vanoxerine (GBR-12909) binds to the target site on the dopamine transporter (DAT)[1]. |
| **$IC_{50}$ & Target** | Ki: 1 nM (dopamine reuptake)[1] |
| **In Vitro** | Vanoxerine (GBR-12909) inhibits the uptake of dopamlne (DA), with an $IC_{50}$ in the low nanomolar range, and is several-fold less potent as inhibitors of the uptake of noradrenaline and 5-HT[2].<br>Vanoxerine (GBR-12909) is also an oral, mixed ion channel blocker with IKr, INa, and L-type calcium channel activity[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Vanoxerine (GBR-12909) (2.5-20 mg/kg; i.p.) significantly increases the ambulatory activity[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

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|---|---|
| Animal Model: | Male mice(ddY strain at 6 weeks of age)[3] |
| Dosage: | 2.5, 5, 10, 20 mg/kg |
| Administration: | Intraperitoneal injection |
| Result: | The ambulatory activity of mice increased in a dose-dependent manner, with a maximal increase at 30 min after the administration. |

## CUSTOMER VALIDATION

- Front Cell Neurosci. 2018 Sep 11;12:309.
- Biochem Biophys Res Commun. 2020 May 14;525(4):989-996.

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## REFERENCES

[1]. Rothman RB, et al. Dopamine transport inhibitors based on GBR12909 and benztropine as potential medications to treat cocaine addiction. Biochem Pharmacol. 2008 Jan 1;75(1):2-16.

[2]. Andersen PH. The dopamine inhibitor GBR 12909: selectivity and molecular mechanism of action. Eur J Pharmacol.

[3]. Hirate K, et al. Characteristics of the ambulation-increasing effect of GBR-12909, a selective dopamine uptakeinhibitor, in mice. Jpn J Pharmacol. 1991 Apr;55(4):501-11.



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