

## Certificate of Analysis

**Product Name:** GBR 12909 dihydrochloride

**Catalog No.:** 0421

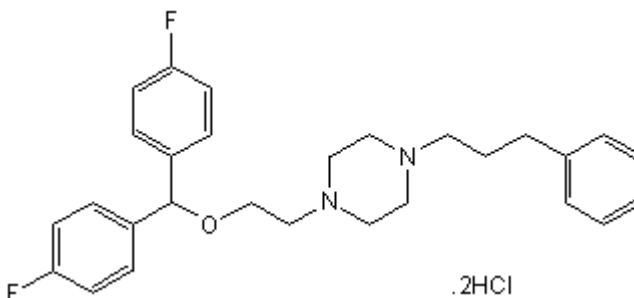
**Batch No.:** 5

CAS Number: 67469-78-7

IUPAC Name: 1-[2-[Bis-(4-fluorophenyl)methoxy]ethyl]-4-(3-phenylpropyl)piperazine dihydrochloride

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>28</sub>H<sub>32</sub>F<sub>2</sub>N<sub>2</sub>O.2HCl  
**Batch Molecular Weight:** 523.49  
**Physical Appearance:** White solid  
**Solubility:** water to 5 mM with gentle warming  
DMSO to 50 mM  
**Storage:** Desiccate at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.81 (Chloroform:Methanol [9:1])  
**HPLC:** Shows 100% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	64.24	6.55	5.35
Found	64.06	6.53	5.4

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Potent, competitive inhibitor of dopamine uptake ( $K_i = 1$  nM for inhibition of striatal dopamine uptake). Has > 100-fold lower affinity for the noradrenalin and 5-HT uptake carriers. Also a potent sigma ligand ( $IC_{50} = 48$  nM). Centrally active following systemic administration.

**Physical and Chemical Properties:**

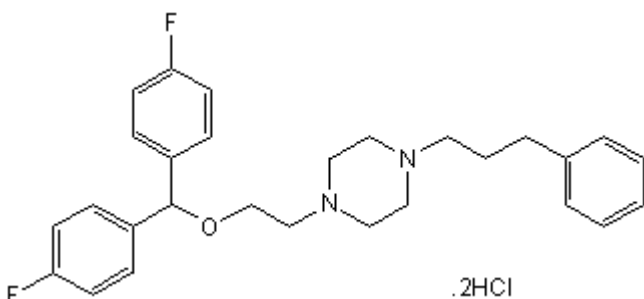
Batch Molecular Formula:  $C_{28}H_{32}F_2N_2O \cdot 2HCl$

Batch Molecular Weight: 523.49

Physical Appearance: White solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Desiccate at RT

**Solubility & Usage Info:**

water to 5 mM with gentle warming  
DMSO to 50 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Heikkila and Manzino** (1984) Behavioral properties of GBR 12909, GBR 13069 and GBR 13098: specific inhibitors of dopamine uptake. *Eur.J.Pharmacol.* **103** 241. PMID: 6237922.

**Andersen** (1989) The dopamine uptake inhibitor GBR12909: selectivity and molecular mechanism of action. *Eur.J.Pharmacol.* **166** 493. PMID: 2530094.

**Contreras et al** (1990) GBR-12909 and fluspirilene potently inhibited binding of [<sup>3</sup>H] (+)3-PPP to sigma receptors in rat brain. *Life Sci.* **47** PL133. PMID: 1980329.

**Spealman and Melia** (1991) Pharmacological characterization of the discriminative-stimulus effects of GBR 12909. *J.Pharmacol.Exp.Ther.* **258** 626. PMID: 1678014.

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