Print Date: Mar 10th 2022

# Certificate of Analysis

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**Product Name:** **NGB 2904** **Catalog No.: 2635** **Batch No.: 1**

CAS Number: 189061-11-8

IUPAC Name: *N*-[4-[4-(2,3-Dichlorophenyl)-1-piperazinyl]butyl]-9*H*-fluorene-2-carboxamide

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** $C_{28}H_{29}Cl_2N_3O.HCl$

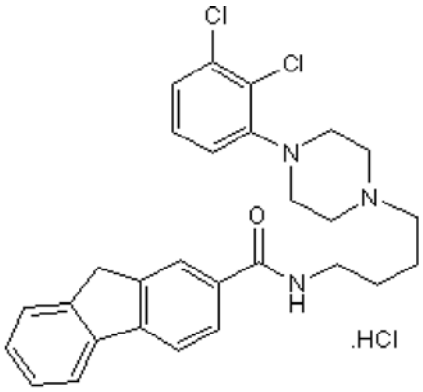
**Batch Molecular Weight:** 530.92

**Physical Appearance:** Off-white solid

**Solubility:** DMSO to 25 mM
ethanol to 5 mM

**Storage:** Desiccate at +4°C

**Batch Molecular Structure:**




## 2. ANALYTICAL DATA

**TLC:** $R_f$ = 0.3 (Chloroform:Methanol [9:1])

**Melting Point:** Between 273 - 274°C

**HPLC:** Shows >99.1% purity

**$^1$H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

| | Carbon | Hydrogen | Nitrogen | Chlorine |
|---|---|---|---|---|
| Theoretical | 63.34 | 5.7 | 7.91 | 20.03 |
| Found | 63.32 | 5.7 | 7.8 | 19.98 |



**bio-techne.com**
info@bio-techne.com
techsupport@bio-techne.com

**North America**
Tel: (800) 343 7475

**China**
info.cn@bio-techne.com
Tel: +86 (21) 52380373

**Europe Middle East Africa**
Tel: +44 (0)1235 529449

**Rest of World**
www.tocris.com/distributors
Tel:+1 612 379 2956

# Product Information



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CAS Number: 189061-11-8

IUPAC Name: *N*-[4-[4-(2,3-Dichlorophenyl)-1-piperazinyl]butyl]-9*H*-fluorene-2-carboxamide

**Description:**

NGB 2904 is a potent and selective dopamine $D_3$ receptor antagonist ($K_i$ values are 1.4, 217, 223, 642, > 5000, > 10000 and > 10000 nM for $D_3$, $D_2$, 5-$HT_2$, $\alpha_1$, $D_4$, $D_1$ and $D_5$ receptors respectively). Potently antagonizes quinpirole-stimulated mitogenesis ($IC_{50}$ = 6.8 nM). Attenuates cocaine's rewarding effects and inhibits relapse to drug-seeking behavior.

**Physical and Chemical Properties:**

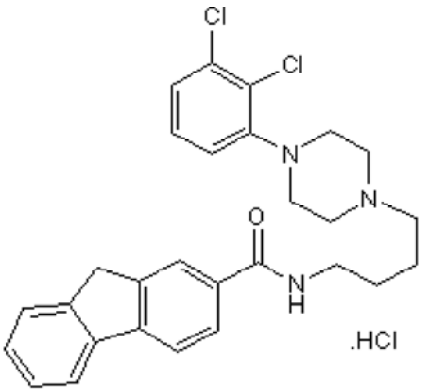
Batch Molecular Formula: $C_{28}H_{29}Cl_2N_3O.HCl$

Batch Molecular Weight: 530.92

Physical Appearance: Off-white solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**




**Storage:** Desiccate at +4°C

**Solubility & Usage Info:**

DMSO to 25 mM
ethanol to 5 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:**

**Pritchard** *et al* (2007) The DA $D_3$ receptor antagonist NGB 2904 increases spontaneous and amphetamine-stimulated locomotion. Pharmacol.Biochem.Behav. ***86*** 718. PMID: 17408730.

**Xi** *et al* (2006) The novel DA $D_3$ receptor antagonist NGB 2904 inhibits cocaine's rewarding effects and cocaine-induced reinstatement of drug-seeking behavior in rats. Neuropsychopharmacology ***31*** 1393. PMID: 16205781.

**Yuan** *et al* (1998) NGB 2904 and NGB 2849: two highly selective DA $D_3$ receptor antagonists. Bioorg.Med.Chem.Lett. ***8*** 2715. PMID: 9873609.