Print Date: Nov 2nd 2012

Certificate of Analysis

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Product Name: AM 251 **Catalog No.: 1117** **Batch No.: 18**

CAS Number: 183232-66-8

IUPAC Name: *N*-(Piperidin-1-yl)-5-(4-iodophenyl)-1-(2,4-dichlorophenyl)-4-methyl-1*H*-pyrazole-3-carboxamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{22}H_{21}Cl_2IN_4O$

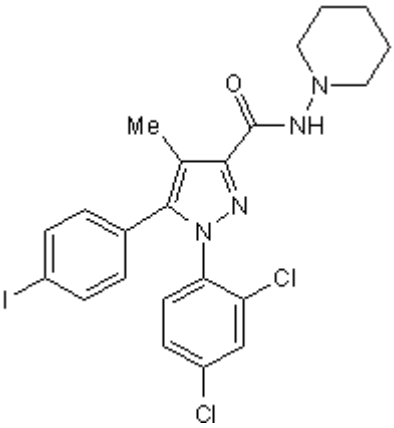
Batch Molecular Weight: 555.24

Physical Appearance: white solid

Solubility: ethanol to 25 mM
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.43 (Ethyl acetate:Petroleum ether [1:1])

HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	47.59	3.81	10.09
Found	47.52	3.85	9.99

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Description:

Potent CB_1 receptor antagonist (IC_{50} = 8 nM, K_i = 7.49 nM) that displays 306-fold selectivity over CB_2 receptors. Also potent GPR55 agonist (EC_{50} = 39 nM). Also available as part of the Cannabinoid CB_1 Receptor Tocriset™; and in a fluorescent form (Cat. No. 2540).

Physical and Chemical Properties:

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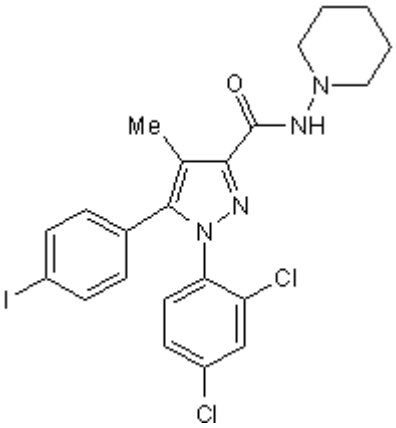
Batch Molecular Weight: 555.24

Physical Appearance: white solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

ethanol to 25 mM
DMSO to 100 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:

Gatley *et al* (1996) ^{125}I-labeled AM 251: a radioiodinated ligand which binds in vivo to mouse brain cannabinoid CB_1 receptors. Eur.J.Pharmacol. ***307*** 331. PMID: 8836622.

Gatley *et al* (1997) Binding of the non-classical cannabinoid CP 55,940, and the diarylpyrazole AM251 to rodent brain cannabinoid receptors. Life Sci. ***61*** 191. PMID: 9335234.

Lan *et al* (1999) Structure-activity relationships of pyrazole derivatives as cannabinoid receptor antagonists. J.Med.Chem. ***42*** 769. PMID: 10052983.

Pertwee (2005) Inverse agonism and neutral antagonism at cannabinoid CB_1 receptors. Life Sci. ***76*** 1307. PMID: 15670612.

Ryberg *et al* (2007) The orphan receptor GPR55 is a novel cannabinoid receptor. Br.J.Pharmacol. ***152*** 1092. PMID: 17876302.