Certificate of Analysis

Product Name: **AM 281** **Catalog No.: 1115** **Batch No.: 8**

CAS Number: 202463-68-1

IUPAC Name: 1-(2,4-Dichlorophenyl)-5-(4-iodophenyl)-4-methyl-*N*-4-morpholinyl-1*H*-pyrazole-3-carboxamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{21}H_{19}Cl_2IN_4O_2$

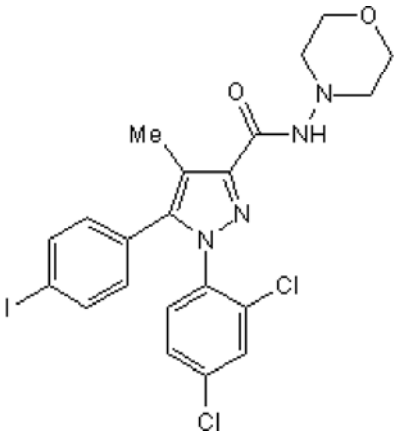
Batch Molecular Weight: 557.22

Physical Appearance: White solid

Solubility: DMSO to 75 mM with gentle warming

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.28 (Ethyl acetate:Petroleum ether [3:1])

HPLC: Shows 99.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	45.27	3.44	10.05
Found	45.22	3.45	9.96

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Product Information

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Description:

Potent, selective CB_1 cannabinoid receptor antagonist/inverse agonist (K_i values are 12 and 4200 nM for CB_1 and CB_2 receptors respectively). Increases locomotor activity following systemic administration in vivo. Analog of SR141716A (K_i = 14 nM).

Physical and Chemical Properties:

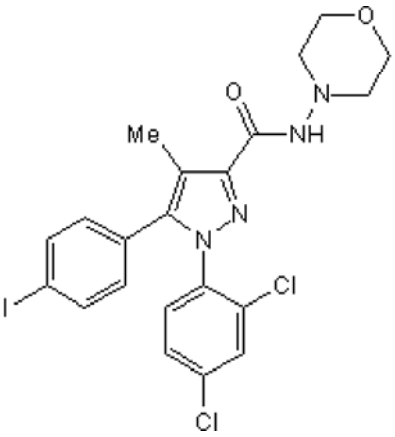
Batch Molecular Formula: $C_{21}H_{19}Cl_2IN_4O_2$

Batch Molecular Weight: 557.22

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Desiccate at +4°C

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:

DMSO to 75 mM with gentle warming

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.

Other Information:

INFORMATION FOR CUSTOMERS IN THE UK ONLY

This product is a Schedule 1 Home Office controlled substance and customers in the UK are required to hold the relevant licence or be exempt from restrictions in order to purchase and possess this material.

Licensing Information:

Sold with the permission of the University of Connecticut

References:

Cosenza *et al* (2000) Locomotor activity and occupancy of brain cannabinoid CB1 receptors by the antagonist/inverse agonist AM281. Synapse ***38*** 477. PMID: 11044895.

Lan *et al* (1999) Design and synthesis of the CB1 selective cannabinoid antagonist AM281: a potential human SPECT ligand. AAPS Pharmsci. ***1*** E4. PMID: 11741201.

Gatley *et al* (1998) Imaging the brain marijuana receptor: development of a radioligand that binds to cannabinoid CB1 receptors *in vivo*. J.Neurochem. ***70*** 417. PMID: 9422389.

Gifford *et al* (1997) Effect of the cannabinoid receptor SPECT agent, AM 281, on hippocampal acetylcholine release from rat brain slices. Neurosci.Lett. ***238*** 84. PMID: 9464661.

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