## Product overview

<table>
<thead>
<tr>
<th>Name</th>
<th>AM251</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat No</td>
<td>HB2776</td>
</tr>
<tr>
<td>Short description</td>
<td>Potent, selective CB1 receptor antagonist / inverse agonist</td>
</tr>
</tbody>
</table>

**Biological description**

AM251 is a potent and selective prototypic cannabinoid 1 receptor (CB1) antagonist / inverse agonist (IC50 = 8 nM and Ki = 7.49 nM).

AM251 shows ~306-fold selectivity over CB2 receptors. Structural analog of SR141716A.

Also acts as a potent GPR55 orphan receptor agonist (EC50 = 39 nM) and shows activity at the μ-opioid receptor (MOR) (Ki = 251 nM). Additionally, directly potentiates GABA	extsubscript{A} receptors.

AM251 attenuates responses to established cannabinoid receptor agonists in vitro or in vivo.

### Biological action
- Antagonist

### Purity
- >98%

### Customer comments

*It (AM251) works - bang for your buck! Works as described! Great technical support.* **Verified customer, UC Denver**

*Another quality product from Hello Bio - AM251 works as expected in our experiments and at a good price as well. We always order with confidence from Hello Bio, and are often surprised at how quickly we receive our products.* **Verified customer, University of South Carolina**

## Images

![Image of AM251 products](image_url)
Properties

**Chemical name**

\( N\text{-}(\text{Piperidin-1-yl})\text{-}5\text{-}(4\text{-}i\text{odophenyl})\text{-}1\text{-}(2,4\text{-}dichlorophenyl)\text{-}4\text{-}methyl\text{-}1\text{H}\text{-}pyrazole\text{-}3\text{-}car boxamide} \)

**Molecular Weight**

555.24

**Chemical structure**

![Chemical Structure Image]

**Molecular Formula**

\( \text{C}_{22}\text{H}_{21}\text{Cl}_{2}\text{IN}_{4}\text{O} \)

**CAS Number**

183232-66-8

**PubChem identifier**

2125

**SMILES**

\( \text{CC1=C(N(N=C1C(=O)NN2CCCCC2)C3=C(C=C(C=C3)Cl)Cl)C4=CC=C(C=C4)I} \)

**Source**

Synthetic

**InChI**

\( \text{InChI=1S/C22H21Cl2IN4O/c1-14-20(30)27-28-11-3-2-4-12-28)26-29(19-10-7-16(23)13-18(19)24)21(14)15-5-8-17(15)9} \)

**InChiKey**

\( \text{BUZAJRPLUGXRAB-UHFFFAOYSA-N} \)

**MDL number**

MFCD01861181

**Appearance**

White solid

---

**Storing and Using Your Product**

**Storage instructions**

Room temperature

**Solubility overview**

Soluble in DMSO (100 mM) and in ethanol (25 mM)

**Important**

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

---

**References for AM251**

**AM-251 and SR141716 act as direct antagonists at mu-opioid receptors: implications for opioid/cannabinoid interaction studies.**


**PubMedID:**

22771770

---

**Cannabinoid CB1 receptor antagonists attenuate cocaine’s rewarding effects: experiments with self-administration and brain-stimulation reward in rats.**


**PubMedID:**

17728698
Structure-activity relationships of pyrazole derivatives as cannabinoid receptor antagonists.
PubMedID: 10052983

The orphan receptor GPR55 is a novel cannabinoid receptor.
PubMedID: 17876302

The cannabinoid CB1 receptor antagonists SR141716 and AM251 directly potentiate GABA(A) receptors.
PubMedID: 21470203