mACHr (muscarinic acetylcholine receptors) are acetylcholine receptors that form G protein-receptor complexes in the cell membranes of certain neurons and other cells. They play several roles, including acting as the main end-receptor stimulated by acetylcholine released from postganglionic fibers in the parasympathetic nervous system. mACHRs are named as such because they are more sensitive to muscarine than to nicotine. Their counterparts are nicotinic acetylcholine receptors (nACHRs), receptor ion channels that are also important in the autonomic nervous system. Many drugs and other substances (for example pilocarpine and scopolamine) manipulate these two distinct receptors by acting as selective agonists or antagonists. Acetylcholine (ACh) is a neurotransmitter found extensively in the brain and the autonomic ganglia.
mAChR Antagonists, Agonists, Inhibitors, Modulators & Activators

((+)-Cevimeline hydrochloride hemihydrate ((+)-SNI-2011; (+)-AF1028 hydrochloride hemihydrate) Cat. No.: HY-76772A
(+)-Cevimeline hydrochloride hemihydrate ((+)-SNI-2011), a potent muscarinic receptor antagonist, is a candidate therapeutic drug for xerostomia in Sjogren’s syndrome. IC50 value: Target: mAChR The general pharmacol.

Purity: >98%
Clinical Data: Launched
Size: 10 mM × 1 mL, 1 mg, 5 mg

(-)-Cevimeline hydrochloride hemihydrate ((-)-SNI-2011; (-)-AF1028 hydrochloride hemihydrate) Cat. No.: HY-76772B
(-)-Cevimeline hydrochloride hemihydrate ((-)-SNI-2011), a novel muscarinic receptor antagonist, is a candidate therapeutic drug for xerostomia in Sjogren’s syndrome. IC50 value: Target: mAChR The general pharmacol.

Purity: >98%
Clinical Data: Launched
Size: 10 mM × 1 mL, 1 mg, 5 mg

(R,R)-Glycopyrrolate (R,R)-Glycopyrronium bromide) Cat. No.: HY-80761
(R,R)-Glycopyrrolate (R,R)-Glycopyrronium bromide; (R,R)-Glycopyrrolate (bromide)) is an anticholinergic agent.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

(±)-Darifenacin ((±)-UK-88525) Cat. No.: HY-22437
(±)-Darifenacin is the racemate of Darifenacin. Darifenacin is a selective M3 muscarinic receptor antagonist.

Purity: 98.10%
Clinical Data: Launched
Size: 10 mM × 1 mL, 50 mg, 100 mg

Aclidinium Bromide (LAS 34273; LAS-W 330) Cat. No.: HY-14144
Aclidinium Bromide (LAS 34273; LAS-W 330) is a long-acting, inhaled muscarinic antagonist. Aclidinium Bromide has the potential for chronic obstructive pulmonary disease (COPD) research.

Purity: 98.08%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Alvameline (Lu 25-109) Cat. No.: HY-101586
Alvameline (Lu25-109) is a partial M1 agonist and M2/M3 antagonist.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Ambutonium bromide (BL700) Cat. No.: HY-U00067
Ambutonium bromide is an acetylcholine antagonist.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Amiriptyline hydrochloride Cat. No.: HY-80527A
Amiriptyline hydrochloride is an inhibitor of serotonin reuptake transporter (SERT) and noradrenaline reuptake transporter (NET), with Ks of 3.45 nM and 13.3 nM for human SERT and NET, respectively.

Purity: 99.56%
Clinical Data: Launched
Size: 10 mM × 1 mL, 500 mg, 1 g, 5 g
### Anethole trithione

**Cat. No.: HY-81223**

Anethole trithione, a sulfur heterocyclic choleretic, is a bile secretion-stimulating agent. Anethole trithione enhances salivary secretion and increases mAChRs, and can be used for dry mouth research.

| Purity: | 99.67% |
| Clinical Data: | Launched |
| Size: | 10 mM × 1 mL, 100 mg, 500 mg |

### Anisodamine hydrobromide

(6-Hydroxyhyoscymine hydrobromide)

**Cat. No.: HY-N0584A**

Anisodamine hydrobromide (6-Hydroxyhyoscymine hydrobromide), a belladonna alkaloid, is a non-subtype-selective muscarinic and a nicotinic cholinoreceptor antagonist. Anisodamine hydrobromide shows antioxidant, anti-inflammatory properties.

| Purity: | >98% |
| Clinical Data: | Launched |
| Size: | 1 mg, 5 mg |

### Arborine

**Cat. No.: HY-N7004**

Arborine inhibits the peripheral action of acetylcholine and induces a fall in blood pressure.

| Purity: | >98% |
| Clinical Data: | No Development Reported |
| Size: | 1 mg, 5 mg, 10 mg |

### Atropine methyl bromide

(Methylatropine bromide)

**Cat. No.: HY-112076**

Atropine methyl bromide, a muscarinic receptor (mAChR) antagonist, is a quaternary ammonium salt of atropine and a mydriatic for dilation of the pupil during ophthalmic examination. It is introduced for relieving pyloric spasm in infants for its highly polar nature.

| Purity: | ≥95.0% |
| Clinical Data: | Launched |
| Size: | 10 mM × 1 mL, 10 mg, 50 mg, 100 mg |

### Atropine sulfate

(Tropine tropute; DL-Hyoscyamine sulfate; Sulfatropinol)

**Cat. No.: HY-81205A**

Atropine (Tropine tropute) sulfate is a broad-spectrum and competitive muscarinic acetylcholine receptor (mAChR) antagonist.

| Purity: | 98.07% |
| Clinical Data: | Launched |
| Size: | 10 mM × 1 mL, 100 mg |

### Atropine sulfate monohydrate

(Tropine tropute sulfate monohydrate; DL-Hyoscyamine sulfate monohydrate)

**Cat. No.: HY-80394**

Atropine (Tropine tropute) sulfate monohydrate is a broad-spectrum and competitive muscarinic acetylcholine receptor (mAChR) antagonist with anti-myopia effect.

| Purity: | 99.62% |
| Clinical Data: | Launched |
| Size: | 10 mM × 1 mL, 100 mg |

### Batefenterol

(GSK961081; TD-5959)

**Cat. No.: HY-12980**

Batefenterol (GSK961081; TD-5959) is a novel muscarinic receptor antagonist and β2-adrenoceptor agonist, displays high affinity for hM2, hM3 muscarinic and hβ2-adrenoceptor with Kᵢ values of 1.4, 1.3 and 3.7 nM, respectively.

| Purity: | 98.17% |
| Clinical Data: | Phase 2 |
| Size: | 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg |

### Benzamide Derivative 1

**Cat. No.: HY-U00415**

Benzamide Derivative 1 is a benzamide derivative from patent EP213775A1, compound 18. Benzamide Derivative 1 may be useful in treatment of gastrointestinal disorders.

| Purity: | >98% |
| Clinical Data: | No Development Reported |
| Size: | 1 mg, 5 mg |

### Benzetimide hydrochloride

(R4929)

**Cat. No.: HY-81547A**

Benzetimide hydrochloride is a muscarinic acetylcholine receptor antagonist. Target: mAChR.

| Purity: | 99.44% |
| Clinical Data: | No Development Reported |
| Size: | 10 mM × 1 mL, 10 mg, 50 mg |

---

www.MedChemExpress.com
Benztrapine mesylate (Cat. No.: HY-B0520A)

- Benztrapine mesylate (Benztrapine mesylate; Benztrapine mesylate; Benztrapine methanesulfonate) is an orally active centrally acting anticholinergic agent that can be used for Parkinson's disease research. Benztrapine mesylate is an anti-histamine agent and a dopamine re-uptake inhibitor.
- Purity: 99.86%
- Clinical Data: Launched
- Size: 10 mM × 1 mL, 500 mg, 1 g

Beperidium iodide (Cat. No.: HY-100152)

- Beperidium iodide shows a competitive antagonistic effect against acetylcholine receptor with a pA2 of 7.93.
- Purity: >98%
- Clinical Data: No Development Reported
- Size: 1 mg, 5 mg

Bethanechol (Cat. No.: HY-80406)

- Bethanechol (Carbamyl-β-methylcholine), a parasympathomimetic agent, is a mAChR agonist that exerts its effects via directly stimulating the mAChR (M1, M2, M3, M4, and M5) of the parasympathetic nervous system.
- Purity: >98%
- Clinical Data: Launched
- Size: 500 mg

Bethanechol chloride (Cat. No.: HY-80406A)

- Bethanechol chloride (Carbamyl-β-methylcholine chloride), a parasympathomimetic agent, is a mAChR agonist that exerts its effects via directly stimulating the mAChR (M1, M2, M3, M4, and M5) of the parasympathetic nervous system.
- Purity: ≥95.0%
- Clinical Data: Launched
- Size: 500 mg

Biperiden (KL 373) (Cat. No.: HY-13204A)

- Biperiden (KL 373) is an antiparkinsonian agent, which is the selective central M1 cholinoreceptors blocker. Target: M1 receptors. Biperiden is an antiparkinsonian agent of the anticholinergic type.
- Purity: >98%
- Clinical Data: Launched
- Size: 1 mg, 5 mg

Blarcamesine (AVex-73; AE-37) (Cat. No.: HY-105296)

- Blarcamesine (AVex-73; AE-37) is an orally bioavailable Sigma-1 receptor agonist and muscarinic receptor modulator, with anticonvulsant, anti-amnesic, neuroprotective and antidepressant properties.
- Purity: >98%
- Clinical Data: No Development Reported
- Size: 1 mg, 5 mg

BQCA (Cat. No.: HY-101858)

- BQCA (BQCA; BQCA) is a highly selective allosteric modulator of the M1 mAChR.
- Purity: 98.59%
- Clinical Data: No Development Reported
- Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

BTM-1086 (Cat. No.: HY-U00406)

- BTM-1086 is a potent anti-ulcer and gastric secretory inhibiting agent.
- Purity: >98%
- Clinical Data: No Development Reported
- Size: 1 mg, 5 mg

Camylofin (Cat. No.: HY-B1230)

- Camylofin is an antimuscarinic, is a smooth muscle relaxant.
- Purity: >98%
- Clinical Data: Launched
- Size: 1 mg, 5 mg
<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Purity</th>
<th>Clinical Data</th>
<th>Size</th>
<th>Purity</th>
<th>Clinical Data</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>HY-00230</td>
<td>≥98.0%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
<td>≥98%</td>
<td>Launched</td>
<td>5 mg, 10 mg</td>
</tr>
<tr>
<td>HY-70020</td>
<td>≥98.0%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg</td>
<td>≥98%</td>
<td>Launched</td>
<td>5 mg, 10 mg</td>
</tr>
<tr>
<td>HY-70020B</td>
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<td>No Development Reported</td>
<td>10 mM × 1 mL, 1 mL, 5 mg, 10 mg, 50 mg</td>
<td>≥98%</td>
<td>Launched</td>
<td>5 mg, 10 mg</td>
</tr>
<tr>
<td>HY-00320</td>
<td>≥98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
<td>≥99.0%</td>
<td>Launched</td>
<td>5 mg, 10 mg</td>
</tr>
<tr>
<td>HY-0006</td>
<td>96.19%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 20 mg</td>
<td>≥98%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 100 mg</td>
</tr>
<tr>
<td>HY-00106</td>
<td>96.19%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 20 mg</td>
<td>≥98%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 100 mg</td>
</tr>
<tr>
<td>HY-14539</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
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<tr>
<td>HY-14539</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
<tr>
<td>HY-14539</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
</tbody>
</table>

Clozapine (HF 1854) is an antipsychotic used for the research of schizophrenia. Clozapine is a potent antagonist of dopamine and a number of other receptors, with a Ki of 9.5 nM for muscarinic M1 receptor.

Purity: 99.74%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg, 1 g, 5 g
**Clozapine N-oxide**

Cat. No.: HY-17366

Clozapine N-oxide is a major metabolite of Clozapine and a human muscarinic designer receptors (DREADDs) agonist. Clozapine N-oxide inhibits \[ ^{3}H \text{quinuclidinyl benzilate (QNB) binding} \] to \( \text{mM}_{3}D_{q} \) and \( \text{mM}_{4}D_{i} \). Clozapine N-oxide can cross the blood-brain barrier.

Purity: 99.98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 mg

---

**Cyclobuxine D**

Cat. No.: HY-N4080

Cyclobuxine D is a steroidal alkaloid extracted from Buxus microphylla. Cyclobuxine D has a significant bradycardic effect in the rat heart and an inhibitory action on acetylcholine and Ba\(^{++}\)-induced contraction of the longitudinal muscle isolated from the rabbit jejunum.

Purity: >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 mg

---

**Cyclopentolate hydrochloride**

Cat. No.: HY-81621A

Cyclopentolate (DL-Cyclopentolate) hydrochloride is an Atropine-like muscarinic receptors antagonist with a \( p\text{K}_{i} \) value of 7.8 (on the circular ciliary muscle). Cyclopentolate hydrochloride is an anti-muscarinic agent commonly used in the ophthalmologic practice.

Purity: 99.52%

**Clinical Data:** Launched

**Size:** 10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg

---

**Darenzepine**

Cat. No.: HY-100154

Darenzepine is a muscarinic receptor inhibitor extracted from patent US 20170095465 A1.

Purity: >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 mg

---

**Darifenacin hydrobromide**

Cat. No.: HY-A0012

Darifenacin hydrobromide (UK-88525 hydrobromide) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: 98.28%

**Clinical Data:** Launched

**Size:** 10 mM × 1 mL, 10 mg, 100 mg

---

**Deschlorclozapine**

Cat. No.: HY-42110

Deschlorclozapine is a potent, high affinity, selective, metabolically stable agonist of muscarinic-based DREADDs. Deschlorclozapine inhibits \([ ^{1}H \text{quinuclidinyl benzilate (QNB) binding} \] to \( \text{mM}_{3}D_{q} \) and \( \text{mM}_{4}D_{i} \) with \( K_{i} \) of 6.3 and 4.2 nM.

Purity: 99.79%

**Clinical Data:** No Development Reported

**Size:** 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

---

**Cyclophrine hydrochloride**

Cat. No.: HY-U00139

Cyclophrine hydrochloride is a cholinergic (muscarinic, nicotinic) (nACHe and nAChR) receptor antagonist.

Purity: >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 mg

---

**Clozapine D8**

Cat. No.: HY-145395

Clozapine D8 (HF 1854 D8) is the deuterium labeled Clozapine. Clozapine, an antipsychotic, is a potent antagonist of dopamine and a number of other receptors, with a \( K_{i} \) of 9.5 nM for muscarinic M1 receptor.

Purity: >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 mg

---

**Cyclobuxine D**

Cat. No.: HY-B1621A

Cyclobuxine D is a steroidal alkaloid extracted from Buxus microphylla. Cyclobuxine D is a significant bradycardic effect in the rat heart and an inhibitory action on acetylcholine and Ba\(^{++}\)-induced contraction of the longitudinal muscle isolated from the rabbit jejunum.

Purity: >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with a \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg

---

**Darenzepine**

Cat. No.: HY-A0033

Darifenacin(UK88525) is a selective M3 muscarinic receptor antagonist with \( p\text{K}_{i} \) of 8.9.

Purity: >98%

**Clinical Data:** Launched

**Size:** 5 mg
| **Desfesoterodine**  
(PNU-200577; 5-Hydroxymethyl Tolterodine) | **Cat. No.: HY-76569** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Desfesoterodine (PNU-200577) is a potent and selective muscarinic receptor (mACHR) antagonist with a $K_i$ and a p$A_2$ of 0.84 nM and 9.14, respectively.</td>
</tr>
</tbody>
</table>
| **Purity:** 99.58%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg | |

| **Diclofen acetic acid**  
(Diclofen acetic acid) | **Cat. No.: HY-100144** |
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Diclofen acetic acid is a potent non-selective cyclooxygenase (COX) antagonist.</td>
</tr>
</tbody>
</table>
| **Purity:** 99.53%  
**Clinical Data:** No Development Reported  
**Size:** 10 mg, 20 mg, 50 mg, 100 mg | |

| **Dexetimide**  
( (+)-Benzetidime; (S)-(+)-Dexetimide; Dexbenzeti mide) | **Cat. No.: HY-105545** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dexetimide (+)-Benzetidime) is a high-affinity muscarinic receptor antagonist and a potent and persistent anticholinergic agent used to treat neuroleptic-induced parkinsonism.</td>
</tr>
</tbody>
</table>
| **Purity:** 99.20%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 10 mg, 50 mg | |

| **Dicyclomine hydrochloride**  
(Dicycloverine hydrochloride) | **Cat. No.: HY-B1339** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclomine hydrochloride is a potent and orally active muscarinic cholinoergic receptors antagonist.</td>
</tr>
</tbody>
</table>
| **Purity:** 99.32%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 100 mg, 250 mg, 500 mg | |

| **Diphenidol hydrochloride**  
(Difenidol hydrochloride) | **Cat. No.: HY-A0082** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenidol hydrochloride (Difenidol hydrochloride) is a non-selective muscarinic $M_1$-$M_4$ receptor antagonist, has anti-arrhythmic activity.</td>
</tr>
</tbody>
</table>
| **Purity:** 99.0%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 100 mg | |

| **Diphenamid methylsulfate**  
(Diphenamid mesylate) | **Cat. No.: HY-16171** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenamid methylsulfate is a quaternary ammonium anticholinergic. It binds muscarinic acetylcholine receptors and thereby decreases secretory excretion of stomach acids as well as saliva and sweat.</td>
</tr>
</tbody>
</table>
| **Purity:** 99.83%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 10 mg, 50 mg | |

| **DREADD agonist 21** | **Cat. No.: HY-100234** |
|---------------------------------------------------------------|
| DREADD agonist 21 is a potent human muscarinic acetylcholine M3 receptors (hM3Dq) agonist ($EC_{50}$=1.7 nM). | |
| **Purity:** 98.94%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 1 mg, 2 mg, 5 mg, 10 mg | |

| **DREADD agonist 21 dihydrochloride** | **Cat. No.: HY-100234A** |
|---------------------------------------------------------------|
| DREADD agonist 21 dihydrochloride is a potent human muscarinic acetylcholine M3 receptors (hM3Dq) agonist ($EC_{50}$=1.7 nM). | |
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg | |

| **Ens-163 phosphate**  
(ENS 213-163; Sandoz ENS 163 phosphate; Thiopilocarpine phosphate) | **Cat. No.: HY-U00038** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ens-163 phosphate is a selective muscarinic M1 receptor agonist.</td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg | |
Fesoterodine
Cat. No.: HY-70053
Fesoterodine is an orally active, nonsubtype selective, competitive muscarinic receptor (mACr) antagonist with pK values of 8.0, 7.7, 7.4, 7.3, 7.5 for M1, M2, M3, M4, M5 receptors, respectively. Fesoterodine is used for the overactive bladder (OAB).

Purity: 97.26%
Clinical Data: Launched
Size: 10 mg, 50 mg, 100 mg, 500 mg

Fesoterodine L-mandelate
Cat. No.: HY-70053A
Fesoterodine L-mandelate is an orally active, nonsubtype selective, competitive muscarinic receptor (mACr) antagonist with pK values of 8.0, 7.7, 7.4, 7.3, 7.5 for M1, M2, M3, M4, M5 receptors, respectively. Fesoterodine L-mandelate is used for the overactive bladder (OAB).

Purity: 98.92%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 500 mg

G-Protein antagonist peptide
Cat. No.: HY-P1376
G-Protein antagonist peptide is the substance P-related peptide that inhibits binding of G proteins to their receptors. G-Protein antagonist peptide competitively and reversibly inhibits M2 muscarinic receptor activation of Gi or Go and inhibits Gs activation by β-adrenoceptors.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Flavoxate hydrochloride
Cat. No.: HY-80549A
Flavoxate hydrochloride(DW-61 Hydrochloride) is a muscarinic AChR antagonist used in various urinary syndromes and as an antispasmodic. Target: mAChR Flavoxate displaces [3H]nitrendipine on the Ca2+ channels binding sites with IC50 of 254 µM.

Purity: 99.89%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 1 g

Gallamine Triethiodide
Cat. No.: HY-80416
Gallamine Triethiodide is a synthetic nondepolarizing blocking drug. Target: mACr Gallamine triethiodide is a non-depolarising muscle relaxant.

Purity: ≥98.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 500 mg

Guvacoline hydrochloride
Cat. No.: HY-N5016
Guvacoline hydrochloride, a pyridine alkaloid found in Areca triandra, can act as a weak full agonist of atrial and ileal muscarinic receptors. <br/>

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Homatropine Bromide
Cat. No.: HY-80547A
Homatropine Bromide is muscarinic AChR antagonist that is an anticholinergic medication. Target: mAChR Homatropine is an anticholinergic medication that is an antagonist at muscarinic acetylcholine receptors and thus the parasympathetic nervous system.

Purity: 99.99%
Clinical Data: Launched
Size: 10 mM × 1 mL, 500 mg, 1 g, 5 g
| **Homatropine methylbromide**  
**Cat. No.: HY-81388** | **Imidafenacin**  
**Cat. No.: HY-B0662** |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Homatropine methylbromide (Homatropine methylbromide) is muscarinic AChR antagonist, inhibits endothelial and smooth muscle muscarinic receptors of WKY-E and SHR-E with IC&lt;sub&gt;50&lt;/sub&gt; of 162.5 nM and 170.3 nM, respectively.</td>
<td>Imidafenacin (KRP-197; ONO-8025) is a potent and selective inhibitor of M3 receptors with KB of 0.317 nM; less potent for M2 receptors(IC50=4.13 nM). IC50 value: 0.3 nM(M3) in vitro. KRP-197 showed equipotent anti-M2 and anti-M3 activity and decreased subtype-selectivity.</td>
</tr>
</tbody>
</table>
| **Purity:** ≥98.0%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 50 mg, 100 mg, 200 mg, 500 mg | **Purity:** 99.07%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 10 mg, 25 mg, 50 mg |

| **Ipratropium bromide**  
**Cat. No.: HY-80241** | **Isogladine**  
**Cat. No.: HY-B0327** |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Ipratropium bromide (Sch 1000) is a muscarinic receptor antagonist, with binding IC&lt;sub&gt;50&lt;/sub&gt; values of 2.9 nM, 2 nM, and 1.7 nM for M1, M2, and M3 receptors, respectively. Ipratropium bromide can be used in the research for COPD (chronic obstructive pulmonary disease) and asthma.</td>
<td>Isogladine is a PDE4 inhibitor and muscarinic acetylcholine receptor binder.</td>
</tr>
</tbody>
</table>
| **Purity:** ≥98.0%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 100 mg | **Purity:** 99.80%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 500 mg |

| **Isogladine maleate**  
**Cat. No.: HY-B0327A** | **Isopteropodine**  
**Cat. No.: HY-N4157** |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Isogladine is a PDE4 inhibitor and muscarinic acetylcholine receptor binder.</td>
<td>Isopteropodine is heteroyohimbine-type oxindole alkaloid components of Uncaria tomentosa (Willd.) DC. Isopteropodine acts as positive modulators of muscarinic M1 and 5-HT2 receptors.</td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** Launched  
**Size:** 1 mg, 5 mg | **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg |

| **JHU37152**  
**Cat. No.: HY-131891** | **JHU37160**  
**Cat. No.: HY-131881** |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>JHU37152 is a potent and brain-penetrant DREADD agonist, with EC&lt;sub&gt;50&lt;/sub&gt; of 5nM and 0.5nM for hM3Dq and hM4Di DREADDs in HEK-293 cells, respectively.</td>
<td>JHU37160 is a potent and brain-penetrant DREADD agonist, with EC&lt;sub&gt;50&lt;/sub&gt; of 18.5nM and 0.2nM for hM3Dq and hM4Di DREADDs in HEK-293 cells, respectively.</td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg | **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg |

| **L-Hyoscyamine**  
**Cat. No.: HY-N0471** | **L-Hyoscyamine sulfate**  
**Cat. No.: HY-N0471A** |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>L-Hyoscyamine (Daturine), a natural plant tropane alkaloid, is a potent and competitive muscarinic receptor (MR) antagonist. L-Hyoscyamine is a levo-isomer to Atropine (HY-B1205).</td>
<td>L-Hyoscyamine sulfate (Daturine sulfate), a natural plant tropane alkaloid, is a potent and competitive muscarinic receptor (MR) antagonist. L-Hyoscyamine sulfate is a levo-isomer to Atropine (HY-B1205).</td>
</tr>
</tbody>
</table>
| **Purity:** 99.32%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 100 mg, 500 mg | **Purity:** >98%  
**Clinical Data:** Launched  
**Size:** 5 mg, 10 mg, 20 mg |
<table>
<thead>
<tr>
<th>Compound</th>
<th>Cat. No.</th>
<th>Description</th>
<th>Purity</th>
<th>Clinical Data</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Levetimide</strong></td>
<td>HY-105545A</td>
<td>Levetimide is a potent and stereoselective inhibitor of <a href="+">3H</a>-pentazocine binding, with a Kᵢ of 2.2 nM.</td>
<td>99.18%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 10 mg, 50 mg</td>
</tr>
<tr>
<td><strong>Levetiracetam</strong></td>
<td>HY-B0106</td>
<td>Levetiracetam (UCB L059) is a selective M2 muscarinic acetylcholine receptors (mACHR) inhibitor. Antiepileptic agent.</td>
<td>99.99%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 50 mg, 100 mg, 500 mg</td>
</tr>
<tr>
<td><strong>LY2119620</strong></td>
<td>HY-15885</td>
<td>LY2119620 is a high-affinity muscarinic M₂/M₄ receptor agonist.</td>
<td>99.74%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td><strong>LY320135</strong></td>
<td>HY-W011040</td>
<td>LY320135 is a potent and selective antagonist of CB₁ receptor, with a Kᵢ of 141 nM. LY320135 also binds to 5-HT₁ and muscarinic receptors with Kᵢs of 6.4 μM and 21.1 μM, respectively. LY320135 exhibits neuroprotective effect.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
<tr>
<td><strong>mACHr-IN-1</strong></td>
<td>HY-12426</td>
<td>mACHr-IN-1 is a potent muscarinic cholinergic receptor (mACHR) antagonist, with an IC₅₀ of 17 nM.</td>
<td>99.78%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
<tr>
<td><strong>mACHr-IN-1 hydrochloride</strong></td>
<td>HY-12426A</td>
<td>mACHr-IN-1 hydrochloride is a potent muscarinic cholinergic receptor (mACHR) antagonist, with an IC₅₀ of 17 nM.</td>
<td>99.94%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg</td>
</tr>
<tr>
<td><strong>Methacholine chloride</strong></td>
<td>HY-A0083</td>
<td>Methacholine chloride (Acetyl-β-methylcholine chloride) acts a muscarinic M₃ receptor agonist in the parasympathetic nervous system. Methacholine chloride acts directly on acetylcholine receptors on smooth muscle causing contraction and airway narrowing.</td>
<td>≥98.0%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 100 mg</td>
</tr>
<tr>
<td><strong>Methylbenactyzium Bromide</strong></td>
<td>HY-B2070</td>
<td>Methylbenactyzium Bromide is a muscarinic acetylcholine receptor (mACHR) inhibitor.</td>
<td>≥98.0%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 50 mg, 100 mg, 200 mg</td>
</tr>
<tr>
<td><strong>Metixene hydrochloride</strong></td>
<td>HY-120081B</td>
<td>Metixene hydrochloride is an anticholinergic antiparkinsonian agent, potently inhibits binding of quinuclidinyl benzilate (QNB) to the muscarinic receptor in rat brain cortical tissue, with an IC₅₀ of 55 nM and a Kᵢ of 15 nM.</td>
<td>≥98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
<tr>
<td><strong>Metixene hydrochloride hydrate</strong></td>
<td>HY-120081A</td>
<td>Metixene hydrochloride hydrate is an anticholinergic antiparkinsonian agent, potently inhibits binding of quinuclidinyl benzilate (QNB) to the muscarinic receptor in rat brain cortical tissue, with an IC₅₀ of 55 nM and a Kᵢ of 15 nM.</td>
<td>99.85%</td>
<td>Launched</td>
<td>10 mM × 1 mL, 10 mg</td>
</tr>
</tbody>
</table>
### MHP 133

**Cat. No.:** HY-101653

MHP 133 is a drug with multiple CNS targets, and inhibits acetylcholinesterase (AChE) with $K_i$ of 69 μM, also active against muscarinic M1 and M2 receptors, serotonin 5HT4 receptors, and imidazole I2 receptors.

**Purity:** ≥98%
**Clinical Data:** No Development Reported
**Size:** 1 mg, 5 mg

### MK-7622

**Cat. No.:** HY-15618

MK-7622 (M1 receptor modulator) is a muscarinic M1 receptor positive allosteric modulator.

**Purity:** 98.37%
**Clinical Data:** Phase 2
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

### ML380

**Cat. No.:** HY-12439

ML380 is a potent, subtype-selective, and brain-penetrant positive allosteric modulator (PAM) of M5 mAChR, with $EC_{50}$ of 190 and 610 nM for human and rat M5, respectively. ML380 exhibits moderate selectivity versus the M1 and M3 mAChR subtypes.

**Purity:** 99.91%
**Clinical Data:** No Development Reported
**Size:** 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### Nebracetam hydrochloride

**Cat. No.:** HY-113970A

Nebracetam hydrochloride, a nootropic M1-muscarinic agonist, induces a rise of intracellular Ca$^{2+}$ concentration. Nebracetam hydrochloride exhibits an $EC_{50}$ of 1.59 mM for elevating [Ca$^{2+}$].

**Purity:** ≥95.0%
**Clinical Data:** No Development Reported
**Size:** 10 mM × 1 mL, 2 mg, 5 mg, 10 mg

### N-Desmethylclozapine

**Cat. No.:** HY-G0021

N-Desmethylclozapine is a major active metabolite of the atypical antipsychotic drug Clozapine.

**Purity:** 99.72%
**Clinical Data:** No Development Reported
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg

### Nuvenzepine

**Cat. No.:** HY-U00119

Nuvenzepine is an mAChR antagonist, has the potential for gastropasm treatment.

**Purity:** ≥99.0%
**Clinical Data:** No Development Reported
**Size:** 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 20 mg

### Olanzapine

**Cat. No.:** HY-14541

Olanzapine (LY170053) is a selective monoaminergic antagonist with high affinity binding to serotonin H1, 5HT2A/2C, 5HT3, 5HT6 (Kᵢ = 7, 4, 11, 57, and 5 nM, respectively), dopamine D1-4 (Kᵢ = 11 to 31 nM), muscarinic M1-5 (Kᵢ = 1.9-25 nM), and adrenergic α1 receptor (Kᵢ = 19 nM).

**Purity:** 99.89%
**Clinical Data:** Launched
**Size:** 10 mM × 1 mL, 50 mg, 100 mg, 500 mg

### Olanzapine D3

**Cat. No.:** HY-145415

Olanzapine D3 (LY170053 D3) is the deuterium labeled Olanzapine.

**Purity:** 99.09%
**Clinical Data:** No Development Reported
**Size:** 5 mg

### Otenzepad

**Cat. No.:** HY-101381

Otenzepad (AF-DX 116) is a selective and competitive M2 muscarinic acetylcholine receptor antagonist, with IC₅₀ values of 640 nM and 386 nM for rabbit peripheral lung and rat heart, respectively.

**Purity:** ≥98.0%
**Clinical Data:** No Development Reported
**Size:** 10 mM × 1 mL, 1 mg, 5 mg

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<table>
<thead>
<tr>
<th><strong>Cat. No.:</strong> HY-B0499A</th>
<th><strong>Cat. No.:</strong> HY-U00015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Otilonium bromide</strong></td>
<td><strong>Oxitropium Bromide</strong></td>
</tr>
<tr>
<td>(Octylonium bromide; SP63)</td>
<td>(Octylonium bromide; SP63)</td>
</tr>
<tr>
<td>Octylonium bromide (SP63) is an antimuscarinic used as a spasmolytic agent. Target: mACHR Octylonium bromide (SP63) inhibited the generation of ACh-induced calcium signals in a dose dependent manner (IC50=880 nM).</td>
<td>Oxitropium bromide is an mACHR antagonist used as an anticholinergic bronchodilator drug for the treatment of asthma and chronic obstructive pulmonary disease.</td>
</tr>
<tr>
<td>Purity: 99.48%</td>
<td>Purity: &gt;98%</td>
</tr>
<tr>
<td>Clinical Data: Launched</td>
<td>Clinical Data: Launched</td>
</tr>
<tr>
<td>Size: 10 mM × 1 mL, 10 mg, 50 mg</td>
<td>Size: 1 mg, 5 mg</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>Cat. No.:</strong> HY-101372A</th>
<th><strong>Cat. No.:</strong> HY-B0267</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oxtremorine M iodide</strong></td>
<td><strong>Oxybutynin</strong></td>
</tr>
<tr>
<td>Oxtremorine M iodide is a potent and non-selective muscarinic acetylcholine receptor (mACHR) agonist. Oxtremorine M iodide potentiates NMDA receptors by muscarinic receptor dependent and independent mechanisms.</td>
<td>Oxybutynin is an anticholinergic agent, which inhibits vascular K⁺ channels in a concentration-dependent manner, with an IC₅₀ of 11.51 μM.</td>
</tr>
<tr>
<td>Purity: ≥98.0%</td>
<td>Purity: 99.55%</td>
</tr>
<tr>
<td>Clinical Data: No Development Reported</td>
<td>Clinical Data: Launched</td>
</tr>
<tr>
<td>Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg</td>
<td>Size: 10 mM × 1 mL, 100 mg, 500 mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cat. No.:</strong> HY-B0267A</th>
<th><strong>Cat. No.:</strong> HY-122203</th>
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</thead>
<tbody>
<tr>
<td><strong>Oxybutynin chloride</strong></td>
<td><strong>PCS1055 dihydrochloride</strong></td>
</tr>
<tr>
<td>Oxybutynin chloride is an anticholinergic agent, which inhibits vascular K⁺ channels in a concentration-dependent manner, with an IC₅₀ of 11.51 μM.</td>
<td>PCS1055 dihydrochloride is a potent, selective and competitive muscarinic M₄ receptor antagonist with an IC₅₀ of 18.1 nM and a Kᵢ of 5.72 nM. PCS1055 dihydrochloride inhibits radioligand [³H]-NMS binding to the M₄ receptor with a Kᵢ of 6.5 nM.</td>
</tr>
<tr>
<td>Purity: 98.31%</td>
<td>Purity: ≥98%</td>
</tr>
<tr>
<td>Clinical Data: Launched</td>
<td>Clinical Data: No Development Reported</td>
</tr>
<tr>
<td>Size: 10 mM × 1 mL, 100 mg, 500 mg</td>
<td>Size: 1 mg, 5 mg</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>Cat. No.:</strong> HY-N0214</th>
<th><strong>Cat. No.:</strong> HY-U00001</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peimisine</strong></td>
<td><strong>Phengutarimid</strong></td>
</tr>
<tr>
<td>(Ebeiensine)</td>
<td>(Ciba 10870, Phengutarimid)</td>
</tr>
<tr>
<td>Peimisine (Ebeiensine) non-competitively antagonizes tracheal smooth muscle muscarinic M receptor and inhibits smooth muscle contraction caused by Ach.</td>
<td>Phengutarimid is an anticholinergic used as an antiparkinsonian agent.</td>
</tr>
<tr>
<td>Purity: 99.51%</td>
<td>Purity: ≥98%</td>
</tr>
<tr>
<td>Clinical Data: No Development Reported</td>
<td>Clinical Data: No Development Reported</td>
</tr>
<tr>
<td>Size: 10 mM × 1 mL, 5 mg, 10 mg</td>
<td>Size: 1 mg, 5 mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cat. No.:</strong> HY-80726</th>
<th><strong>Cat. No.:</strong> HY-B1006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pilocarpine Hydrochloride</strong></td>
<td><strong>Pilocarpine nitrate</strong></td>
</tr>
<tr>
<td>Pilocarpine Hydrochloride is a selective M3-type muscarinic acetylcholine receptor (M3 muscarinic receptor) agonist.</td>
<td>Pilocarpine nitrate is a selective M3-type muscarinic acetylcholine receptor (M3 muscarinic receptor) agonist.</td>
</tr>
<tr>
<td>Purity: 99.92%</td>
<td>Purity: ≥98%</td>
</tr>
<tr>
<td>Clinical Data: Launched</td>
<td>Clinical Data: Launched</td>
</tr>
<tr>
<td>Size: 100 mg, 500 mg</td>
<td>Size: 1 mg, 5 mg</td>
</tr>
</tbody>
</table>
Piperidolate

Piperidolate is an antimuscarinic, inhibits intestinal cramp induced by acetylcholine (rats and dogs).

Purity: 99.09%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 200 mg

Purity: 99.94%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 200 mg

Purity: ≥95.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 200 mg

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: 98.67%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: 99.93%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg

Purity: 99.78%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Purity: ≥95.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 200 mg

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: 99.94%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Purity: 99.78%
Clinical Data: Launched
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

Purity: 99.78%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg
RHC 80267 (U-57908)

Cat. No.: HY-107416

RHC 80267 (U-57908) is a potent and selective inhibitor of diacylglycerol lipase (DAGL) (with IC_{50} of 4 μM in canine platelets). RHC-80267 inhibits cholinesterase activity with an IC_{50} of 4 μM, thereby enhancing the relaxation evoked by acetylcholine.

Purity: 99.51%
Clinical Data: No Development Reported
Size: 10 mg, 25 mg, 50 mg, 100 mg

RHC 80267

Cat. No.: HY-U00030

Rispenzepine is a novel antimuscarinic compound with a preferential action at M_{3} and M_{1} receptor subtypes.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Solifenacin

Cat. No.: HY-A0002

Solifenacin Succinate (YM905) is a novel muscarinic receptor antagonist with pK_{i}s of 7.6, 6.9 and 8.0 for M_{1}, M_{3} and M_{4} receptors, respectively.

Purity: 99.99%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Solifenacin hydrochloride (YM905 hydrochloride)

Cat. No.: HY-106353

Smilagenin (SM) is a small-molecule steroidal sapogenin from Rhizoma anemarrhenae and Radix asparagi widely used in traditional Chinese medicine for treating chronic neurodegeneration diseases.

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Solifenacin DS hydrochloride

Cat. No.: HY-135329

Solifenacin DS hydrochloride is a deuterium labeled Solifenacin hydrochloride. Solifenacin hydrochloride is a muscarinic receptor antagonist with pK_{i}s of 7.6, 6.9 and 8.0 for M_{3}, M_{3} and M_{1} receptors, respectively.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

TAK-071

Cat. No.: HY-14825

Talasclidine is a muscarinic agonist with preferential neuron-stimulating properties. Talasclidine is a full agonist at the M1 subtype, and as a partial agonist at the M2 and M3 subtypes.

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg

Solifenacin (YM905 free base)

Cat. No.: HY-122190

Talasclidine

Cat. No.: HY-I0230

Talasclidine (SVT-40776) is a highly selective M3 muscarinic receptor antagonist (K_{i}= 0.19 nM), ~200 fold selectivity over M2 receptor; IC_{50} value: 0.19 nM (K_{i}) Target: M3 muscarinic receptor in vitro: SVT-40776 is highly selective for M3 over M2 receptors (K_{i} = 0.19 nmol).

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Solifenacin hydrochloride (YM905 hydrochloride)

Cat. No.: HY-128855

Talasclidine hydrochloride (YM905 hydrochloride)

Cat. No.: HY-80230

Purity: 99.29%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Smilagenin

Cat. No.: HY-A0034

Smilagenin (SM) is a small-molecule steroidal sapogenin from Rhizoma anemarrhenae and Radix asparagi widely used in traditional Chinese medicine for treating chronic neurodegeneration diseases.

Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Solifenacin Succinate (YM905)

Cat. No.: HY-U00030

Solifenacin is a novel antimuscarinic compound antagonist with a preferential action at M_{3} and M_{1} receptors.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Rispenzepine

Cat. No.: HY-A0034

Solifenacin (YM905 free base) is a novel muscarinic receptor antagonist with pK_{i}s of 7.6, 6.9 and 8.0 for M_{3}, M_{3} and M_{1} receptors, respectively.

Purity: 99.77%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg
**Tarafenacin D-tartrate**

(SVT-40776 D-tartrate)

Tarafenacin D-tartrate (SVT-40776 D-tartrate) is a highly selective M3 muscarinic receptor antagonist (Ki = 0.19 nM), ~200 fold selectivity over M2 receptor.

Purity: 99.70%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

**Tebonin hydrochloride**

Cat. No.: HY-U00055

Tebonin hydrochloride is a synthesized drug that is expected to have anticholinergic action.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

**Thiochrome**

Cat. No.: HY-N7247

Thiochrome, a natural oxidation product and metabolite of thiamine, is a selective M4 muscarinic receptor of acetylcholine (ACh) affinity enhancer. Thiochrome has neutral cooperativity with ACh at M1 to M3 receptors.

Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

**Tiotropium Bromide hydrate**

(BA679 BR (hydrate))

Tiotropium Bromide hydrate is an anticholinergic and bronchodilator and a muscarinic receptor antagonist.

Purity: >98%
Clinical Data: Launched
Size: 1 mg, 5 mg

**TBPP**

Cat. No.: HY-14562

TBPP is an allosteric M1 nAChR agonist (EC50=289 nM) that regulates amyloid processing and produces antipsychotic-like activity in rats.

Purity: 99.68%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 200 mg

**Terodiline hydrochloride**

Cat. No.: HY-U00055

Terodiline hydrochloride is an M1-selective muscarinic receptor (mAChR) antagonist with Kᵦ of 15, 160, 280, and 138 nM in rabbit vas deferens (M1), atria (M2), bladder (M3) and ileal muscle (M3), respectively. Terodiline hydrochloride also is a Ca²⁺ blocker.

Purity: 99.78%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Temaverine hydrochloride**

Cat. No.: HY-B1789A

Temaverine hydrochloride is a selective and orally active muscarinic M1 receptor antagonist with a Kᵦ of 0.94 nM. Temaverine hydrochloride inhibits gastric acid secretion and has antiulcer effects.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

**Tematropium**

(CDDD3602; HG6)

Cat. No.: HY-U00203

Tematropium (CDDD3602) is a soft anticholinergics.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

**Tienilic acid**

Cat. No.: HY-G0250

Tienilic acid is an anticonvulsant.

Purity: 99.70%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Tobramycin**

Cat. No.: HY-GT105

Tobramycin is an aminoglycoside antibiotic.

Purity: 99.68%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Tolterodine**

Cat. No.: HY-G0120

Tolterodine is a muscarinic M3 receptor antagonist.

Purity: 99.70%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Trenimon**

Cat. No.: HY-U01303

Trenimon is an antispasmodic.

Purity: 99.70%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Tropisetron**

Cat. No.: HY-U00565

Tropisetron is a selective 5-HT3 receptor antagonist.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

**Tubocurarine**

Cat. No.: HY-G0200

Tubocurarine is a neuromuscular blocking agent.

Purity: >98%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Tubocurarine chloride**

Cat. No.: HY-G0200

Tubocurarine chloride is a neuromuscular blocking agent.

Purity: >98%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

**Temazepam**

Cat. No.: HY-U00203

Temazepam is a benzodiazepine hypnotic.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg
<table>
<thead>
<tr>
<th><strong>Cat. No.: HY-A0024</strong></th>
<th><strong>Cat. No.: HY-90010</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tolterodine</strong> (R)-(−)-Tolterodine; (+)-Tolterodine; (R)-Tolterodine; PNU-200583)</td>
<td>Tolterodine Tartrate (Kabi-2234; PNU-200583E)</td>
</tr>
<tr>
<td>Tolterodine(PNU-200583) is a potent muscarinic receptor antagonists that show selectivity for the urinary bladder over salivary glands in vivo.</td>
<td>Tolterodine Tartrate (Kabi-2234; PNU-200583E) is a potent muscarinic receptor antagonist and shows selectivity for the urinary bladder over salivary glands in vivo.</td>
</tr>
<tr>
<td><strong>Purity:</strong> 99.55%</td>
<td><strong>Purity:</strong> 99.88%</td>
</tr>
<tr>
<td><strong>Clinical Data:</strong> Launched</td>
<td><strong>Clinical Data:</strong> Launched</td>
</tr>
<tr>
<td><strong>Size:</strong> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</td>
<td><strong>Size:</strong> 10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg, 250 mg</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>Cat. No.: HY-81277</strong></th>
<th><strong>Cat. No.: HY-B0321</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trihexyphenidyl hydrochloride</strong></td>
<td>Tropicamide (Ro 1-7683)</td>
</tr>
<tr>
<td>Trihexyphenidyl hydrochloride is an antiparkinsonian agent of the antimuscarinic class, binds to the M1 muscarinic receptor.</td>
<td>Tropicamide (Ro 1-7683) is a selective M4 muscarinic acetylcholine receptor antagonist. Tropicamide produces short acting mydriasis (dilation of the pupil) and cycloplegia when applied as eye drops.</td>
</tr>
<tr>
<td><strong>Purity:</strong> 99.80%</td>
<td><strong>Purity:</strong> 99.06%</td>
</tr>
<tr>
<td><strong>Clinical Data:</strong> Launched</td>
<td><strong>Clinical Data:</strong> Launched</td>
</tr>
<tr>
<td><strong>Size:</strong> 10 mM × 1 mL, 500 mg</td>
<td><strong>Size:</strong> 10 mM × 1 mL, 100 mg, 500 mg</td>
</tr>
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<table>
<thead>
<tr>
<th><strong>Cat. No.: HY-80461</strong></th>
<th><strong>Cat. No.: HY-12100</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trospium chloride</strong></td>
<td>Umeclidinium bromide (GSK573719A)</td>
</tr>
<tr>
<td>Trospium chloride is an orally active, specific and competitive antagonist of muscarinic cholinergic receptors (mACHRs), with antimuscarinic activity.</td>
<td>Umeclidinium bromide is a novel mAChr antagonist. The affinity (Kᵢ) of Umeclidinium bromide for the cloned human M1–M5 mAChrRs ranges from 0.05 to 0.16 nM.</td>
</tr>
<tr>
<td><strong>Purity:</strong> 99.32%</td>
<td><strong>Purity:</strong> 99.72%</td>
</tr>
<tr>
<td><strong>Clinical Data:</strong> Launched</td>
<td><strong>Clinical Data:</strong> Launched</td>
</tr>
<tr>
<td><strong>Size:</strong> 10 mM × 1 mL, 100 mg</td>
<td><strong>Size:</strong> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Cat. No.: HY-U00316</strong></th>
<th><strong>Cat. No.: HY-12157</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vinconate</strong> (Chanodesethylapovincamine)</td>
<td>VU 0238429</td>
</tr>
<tr>
<td>Vinconate is an indolonaphthyridine derivative and can stimulate the muscarinic acetylcholine receptor.</td>
<td>VU 0238429 is positive allosteric modulator of muscarinic acetylcholine receptor subtype 5 (mACHR5 or M5), with an EC₅₀ of 1.16 μM.</td>
</tr>
<tr>
<td><strong>Purity:</strong> &gt;98%</td>
<td><strong>Purity:</strong> 99.96%</td>
</tr>
<tr>
<td><strong>Clinical Data:</strong> No Development Reported</td>
<td><strong>Clinical Data:</strong> No Development Reported</td>
</tr>
<tr>
<td><strong>Size:</strong> 1 mg, 5 mg</td>
<td><strong>Size:</strong> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cat. No.: HY-107651</strong></th>
<th><strong>Cat. No.: HY-101281</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VU 0365114</strong></td>
<td>VU 6008667</td>
</tr>
<tr>
<td>VU 0365114 is a mAChr M, positive allosteric modulator, with an EC₅₀ of 2.7 μM.</td>
<td>VU 6008667 is a selective negative allosteric modulator of M5 NAM with EC₅₀ of 1.2 μM and 1.6 μM for human M5 and rat M5, respectively. High CNS penetration.</td>
</tr>
<tr>
<td><strong>Purity:</strong> 99.51%</td>
<td><strong>Purity:</strong> 99.05%</td>
</tr>
<tr>
<td><strong>Clinical Data:</strong> No Development Reported</td>
<td><strong>Clinical Data:</strong> No Development Reported</td>
</tr>
<tr>
<td><strong>Size:</strong> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</td>
<td><strong>Size:</strong> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Compound</th>
<th>Cat. No.</th>
<th>Description</th>
<th>Purity</th>
<th>Clinical Data</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>VU0119498</td>
<td>HY-114933</td>
<td>YM-46303 is an mAChR antagonist which exhibits the highest affinities for M1 and M3 receptors, and selectivity for M3 over M2 receptor.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>VU0152100 (VU152100)</td>
<td>HY-13340</td>
<td>VU0152100 is a potent and selective allosteric potentiator of M4 mAChR with an EC50 of 380 ± 93 nM.</td>
<td>99.94%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 10 mg, 50 mg</td>
</tr>
<tr>
<td>VU0238441</td>
<td>HY-12158</td>
<td>YM-46303 is an mAChR antagonist which exhibits the highest affinities for M1 and M3 receptors, and selectivity for M3 over M2 receptor.</td>
<td>≥97.0%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>VU0357017 hydrochloride (CID-25010775)</td>
<td>HY-19752A</td>
<td>VU0357017 hydrochloride (CID-25010775) is a potent, selective and brain-penetrant allosteric agonist of M4 muscarinic acetylcholine receptor, with an EC50 of 477 nM.</td>
<td>99.95%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 10 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>VU0467154</td>
<td>HY-112209</td>
<td>VU0467154 is a positive allosteric modulator of the M4 muscarinic acetylcholine receptor (mAChR), potentiating the response to ACh with a pEC50 of 7.75, 6.2 and 6 for rat, human and cynomolgus monkey M4 receptor, respectively.</td>
<td>99.59%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>VU10010</td>
<td>HY-14563</td>
<td>VU10010 is a potent, highly selective and allosteric M4 mAChR potentiator with an EC50 of 400 nM. VU10010 binds to an allosteric site on M4 mAChR and increases affinity for acetylcholine and coupling to G proteins.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>VU6005806 (AZN-00016130)</td>
<td>HY-128584</td>
<td>VU6005806 (AZN-00016130) is a potent muscarinic acetylcholine receptor subtype 4 (M4) positive allosteric modulator (PAM), with EC50 of 94 nM, 28 nM, 87 nM and 68 nM for human, rat, dog and cyno M4, respectively. Used in the research of neuropsychiatric disorders.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
<tr>
<td>Xanomeline oxalate (LY246708 oxalate)</td>
<td>HY-13410</td>
<td>Xanomeline oxalate (LY246708 oxalate) is a potent and selective muscarinic receptor agonist (SMRA) and stimulates phosphoinositide hydrolysis in vivo. Xanomeline oxalate can be used for the research of Alzheimer’s disease.</td>
<td>99.10%</td>
<td>Phase 2</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 50 mg</td>
</tr>
<tr>
<td>YM-58790</td>
<td>HY-101679</td>
<td>YM-58790 is a potent antagonist of M3 muscarinic receptor, with Ki of 15 nM.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
</tbody>
</table>

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<table>
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<tr>
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<th>Clinical Data</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zamifenacin (UK-76654)</td>
<td>HY-123337</td>
<td>Potent gut-selective muscarinic M3 receptor antagonist. Reduces colonic motility in irritable bowel syndrome.</td>
<td>99.74%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>Zamifenacin fumarate (UK-76654 fumarate)</td>
<td>HY-107649</td>
<td>Potent gut-selective muscarinic M3 receptor antagonist. Reduces colonic motility in irritable bowel syndrome.</td>
<td>99.77%</td>
<td>No Development Reported</td>
<td>10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</td>
</tr>
<tr>
<td>[D-Trp7,9,10]-Substance P</td>
<td>HY-P1375</td>
<td>Substance P analog that inhibits activation of Gq/11 by M1 muscarinic ACh receptors. Does not inhibit Gi/o activation by M2 ACh receptors.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
<tr>
<td>[D-Trp7,9,10]-Substance P TFA</td>
<td>HY-P1375A</td>
<td>Substance P TFA analog that inhibits activation of Gq/11 by M1 muscarinic ACh receptors. Does not inhibit Gi/o activation by M2 ACh receptors.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
</tr>
</tbody>
</table>