Angiotensin-converting Enzyme (ACE)

Angiotensin-converting enzyme (ACE) indirectly increases blood pressure by causing blood vessels to constrict. ACE does that by converting angiotensin I to angiotensin II, which constricts the vessels. ACE, angiotensin I and angiotensin II are part of the renin-angiotensin system (RAS), which controls blood pressure by regulating the volume of fluids in the body. ACE is secreted in the lungs and kidneys by cells in the endothelium (inner layer) of blood vessels. It has two primary functions: ACE catalyses the conversion of angiotensin I to angiotensin II, a potent vasoconstrictor in a substrate concentration-dependent manner. ACE degrades bradykinin, a potent vasodilator, and other vasoactive peptides. These two actions make ACE inhibition a goal in the treatment of conditions such as high blood pressure, heart failure, diabetic nephropathy, and type 2 diabetes mellitus. Inhibition of ACE (by ACE inhibitors) results in the decreased formation of angiotensin II and decreased metabolism of bradykinin, leading to systematic dilation of the arteries and veins and a decrease in arterial blood pressure.
# Angiotensin-converting Enzyme (ACE) Inhibitors & Modulators

## Angiotensin 1-7
*(Angiotensin-(1-7); Ang-(1-7))*

**Cat. No.:** HY-12403

**Bioactivity:** Angiotensin (1-7) inhibits purified canine angiotensin converting enzyme (ACE) activity with an IC₅₀ of 0.65 μM.

**Purity:** 99.61%

**Clinical Data:** No Development Reported

**Size:** 10mM x 1mL in Water, 5 mg, 10 mg, 25 mg, 50 mg

## Benazepril hydrochloride
*(CGS14824A)*

**Cat. No.:** HY-B0093A

**Bioactivity:** Benazepril hydrochloride, an angiotensin converting enzyme inhibitor, which is a medication used to treat high blood pressure. Target: angiotensin converting enzyme (ACE)

**Purity:** 99.85%

**Clinical Data:** Launched

**Size:** 10mM x 1mL in DMSO, 1 g, 5 g

## Captopril
*(SQ-14534; SA333)*

**Cat. No.:** HY-B0368

**Bioactivity:** Captopril (SQ-14534) is a potent, competitive inhibitor of angiotensin-converting enzyme (ACE).

**Purity:** 98.06%

**Clinical Data:** Launched

**Size:** 10mM x 1mL in DMSO, 10 mg, 50 mg, 100 mg

## Cilazapril
*(Ro 31-2848)*

**Cat. No.:** HY-A0043

**Bioactivity:** Cilazapril is a angiotensin-converting enzyme (ACE) inhibitor used for the treatment of hypertension and congestive heart failure.

**Purity:** >98%

**Clinical Data:** Launched

**Size:** 10 mg, 50 mg, 100 mg

## Enalapril
*(MK-421)*

**Cat. No.:** HY-B0331

**Bioactivity:** Enalapril (MK-421) is an angiotensin converting enzyme (ACE) inhibitor.

**Purity:** >98%

**Clinical Data:** Launched

**Size:** 1 g, 5 g

## Enalapril D5 maleate
*(MK-421 (D5 maleate))*

**Cat. No.:** HY-B0331AS

**Bioactivity:** Enalapril (D5 maleate) (MK-421 (D5 maleate)) is deuterium labeled Enalapril, which is an angiotensin converting enzyme (ACE) inhibitor.

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg, 5 g

## Enalaprilat D5
*(MK-422 D5)*

**Cat. No.:** HY-B0231AS

**Bioactivity:** Enalaprilat D5 is the deuterium labeled Enalaprilat(MK-422), which is an angiotensin-converting enzyme (ACE) inhibitor.

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 1 mg
<table>
<thead>
<tr>
<th>Substance</th>
<th>Cat. No.</th>
<th>Bioactivity</th>
<th>Purity</th>
<th>Clinical Data</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enalaprilat D5 Sodium Salt</strong> (MK-422 D5 Sodium Salt)</td>
<td>HY-B0233BS</td>
<td>Enalaprilat D5 Sodium Salt is the deuterium labeled Enalaprilat(MK-422), which is an angiotensin-converting enzyme (ACE) inhibitor.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg, 10 mg</td>
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<tr>
<td><strong>Enalapril dihydrate</strong> (MK-422)</td>
<td>HY-B0231</td>
<td>Enalapril (dihydrate) (MK-422) is an angiotensin-converting enzyme (ACE) inhibitor with IC\textsubscript{50} of 1.94 nM.</td>
<td>99.0%</td>
<td>Launched</td>
<td>10mM x 1mL in DMSO, 50 mg, 100 mg</td>
</tr>
<tr>
<td><strong>Fosinopril sodium</strong> (SQ28555)</td>
<td>HY-B0382</td>
<td>Fosinopril Sodium is the ester prodrug of an angiotensin-converting enzyme (ACE) inhibitor, used for the treatment of hypertension and some types of chronic heart failure. Target: ACE Fosinopril is a phosphinic acid-containing ester prodrug that belongs to the...</td>
<td>&gt;98%</td>
<td>Launched</td>
<td>10mM x 1mL in Water, 50 mg, 100 mg</td>
</tr>
<tr>
<td><strong>H-Ile-Pro-Pro-OH</strong></td>
<td>HY-114424</td>
<td>H-Ile-Pro-Pro-OH, a milk-derived peptide [^1], inhibits angiotensin-converting enzyme (ACE) [^1] with an IC\textsubscript{50} of 5 μM [^2].  Antihypertensive tripeptides [^1],.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>10 mg</td>
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<tr>
<td><strong>Hemorphin-7</strong></td>
<td>HY-P0318</td>
<td>Hemorphin-7 is a hemorphin peptide, an endogenous opioid peptide derived from the β-chain of hemoglobin. Hemorphin peptides exhibit antinociceptive and antihypertensive activities, activating opioid receptors and inhibiting angiotensin-converting enzyme (ACE).</td>
<td>99.65%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg, 10 mg</td>
</tr>
<tr>
<td><strong>Imidapril hydrochloride</strong> (TA-6366)</td>
<td>HY-B1451</td>
<td>Imidapril Hydrochloride is the hydrochloride salt of Imidapril, an angiotensin-converting enzyme (ACE) inhibitor with antihypertensive activity.</td>
<td>99.95%</td>
<td>Launched</td>
<td>10mM x 1mL in DMSO, 10 mg, 50 mg, 100 mg, 200 mg</td>
</tr>
<tr>
<td><strong>Imidaprilate</strong> (6366A Imidapril)</td>
<td>HY-109592</td>
<td>Imidaprilate is an active metabolite of TA-6366, acts as a potent angiotensin converting enzyme (ACE) inhibitor, with an IC\textsubscript{50} of 2.6 nM, and is used in the research of hypertensive disease.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>250 mg, 500 mg</td>
</tr>
<tr>
<td><strong>Leucylarginylproline</strong></td>
<td>HY-P0143</td>
<td>Leucylarginylproline is an angiotensin-converting enzyme (ACE) inhibitor with an IC\textsubscript{50} of 0.27μM.</td>
<td>&gt;98%</td>
<td>No Development Reported</td>
<td>1 mg, 5 mg</td>
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<tr>
<td><strong>Lisinopril</strong> (MK-521)</td>
<td>HY-18206</td>
<td>Lisinopril (MK-521) is an angiotensin-converting enzyme inhibitor, used in treatment of hypertension, congestive heart failure, and heart attacks.</td>
<td>&gt;98%</td>
<td>Launched</td>
<td>1 g, 5 g</td>
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<tr>
<td><strong>Lisinopril dihydrate</strong> (MK-521 (dihydrate))</td>
<td>HY-18206A</td>
<td>Lisinopril Dihydrate is an angiotensin-converting enzyme inhibitor, used in treatment of hypertension, congestive heart failure, and heart attacks. Target: ACE Lisinopril is a potent, competitive inhibitor of angiotensin-converting enzyme (ACE), the enzyme responsible for the conversion of...</td>
<td>98.0%</td>
<td>Launched</td>
<td>10mM x 1mL in Water, 1 g, 5 g</td>
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<td><strong>Bioactivity</strong></td>
<td><strong>Cat. No.</strong></td>
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<td>MLN-4760 is a potent and selective human ACE2 inhibitor (IC\textsubscript{50} 0.44 nM), with excellent selectivity (&gt;500-fold) versus related enzymes including human testicular ACE (IC\textsubscript{50})</td>
<td>HY-19414</td>
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<tr>
<td>N-Acetyl-Ser-Asp-Lys-Pro is a natural and specific substrate for the N-terminal site of ACE.</td>
<td>HY-P0266</td>
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<td>Omapatrilat (BMS-186716) is a dual inhibitor of the metalloproteases ACE and NEP with K\textsubscript{i} values of 0.64 and 0.45 nM, respectively.</td>
<td>HY-18208</td>
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<tr>
<td>Perindopril (S-9490) is a long-acting ACE inhibitor of which is used to treat high blood pressure, heart failure or stable coronary artery disease. Target: ACE Perindopril is a long-acting ACE inhibitor. It is used to treat high blood pressure, heart failure or stable coronary artery disease in...</td>
<td>HY-B0130</td>
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<tr>
<td>Phosphoramidon disodium is an inhibitor. Phosphoramidon inhibits endothelin-converting enzyme (ECE), neutral endopeptidase (NEP), and angiotensin-converting enzyme (ACE) with IC\textsubscript{50} values of 3.5, 0.034, and 78 μM, respectively.</td>
<td>HY-N2021A</td>
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<tr>
<td>Pivalopril is a new orally active angiotensin converting enzyme (ACE) inhibitor.</td>
<td>HY-U00041</td>
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<tr>
<td>Quinapril (hydrochloride) (CI-906) is a prodrug that belongs to the angiotensin-converting enzyme (ACE) inhibitor class of medications.</td>
<td>HY-B0477</td>
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</tbody>
</table>
Ramipril (HOE-498)  Cat. No.: HY-B0279

Bioactivity: Ramipril (HOE-498) is an angiotensin-converting enzyme (ACE) inhibitor with IC$_{50}$ of 5 nM.

Purity: 99.81%
Clinical Data: Launched
Size: 10mM x 1mL in DMSO, 100 mg, 500 mg

Rentiapril racemate (SA-446 racemate)  Cat. No.: HY-U00074

Bioactivity: Rentiapril racemate (SA-446 racemate) is the less active racemate of Rentiapril. Rentiapril is an angiotensin converting enzyme (ACE) inhibitor.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg, 20 mg

Sinapinic acid (Sinapic acid)  Cat. No.: HY-W009732

Bioactivity: Sinapinic acid (Sinapic acid) is a phenolic compound isolated from Hydrophytum formicarum Jack. Rhizome, acts as an inhibitor of HDAC, with an IC$_{50}$ of 2.27 mM [1], and also inhibits ACE-I activity [2]. Sinapinic acid possesses potent HDAC

Purity: 99.61%
Clinical Data: No Development Reported
Size: 10mM x 1mL in DMSO, 100 mg

Temocapril hydrochloride  Cat. No.: HY-B0384

Bioactivity: Temocapril Hydrochloride is a long-acting angiotensin-converting enzyme (ACE) inhibitor, used for the treatment of hypertension.

Purity: 99.52%
Clinical Data: Launched
Size: 10mM x 1mL in DMSO, 10 mg, 50 mg

Trandolapril (RU44570)  Cat. No.: HY-B0592

Bioactivity: Trandolapril(RU44570) is an ACE inhibitor used to treat high blood pressure. Target: ACE. Trandolapril is an ACE inhibitor used to treat high blood pressure, it may also be used to treat other conditions. Trandolapril acts by competitive inhibition of Angiotensins Converting Enzyme (ACE), a key...

Purity: 98.01%
Clinical Data: Launched
Size: 10mM x 1mL in DMSO, 10 mg, 50 mg, 100 mg

Utibapril (FPL 63547)  Cat. No.: HY-101681

Bioactivity: Utibapril is an angiotensin-converting enzyme (ACE) inhibitor with antihypertensive activities.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg, 20 mg

Zofenopril  Cat. No.: HY-108321

Bioactivity: Zofenopril is an angiotensin-converting enzyme (ACE) inhibitor with an IC$_{50}$ of 81 μM.

Purity: 98.81%
Clinical Data: Launched
Size: 5 mg

Zofenopril calcium (SQ26991)  Cat. No.: HY-80655

Bioactivity: Zofenopril Calcium(SQ26991) is an antioxidant that acts as an angiotensin-converting enzyme inhibitor.

Purity: 97.91%
Clinical Data: Launched
Size: 5 mg, 10 mg, 50 mg, 100 mg