Aldose Reductase

Aldose reductase is a small, cytosolic, monomeric enzyme which belongs to the aldo-keto reductase superfamily. Aldose reductase catalyzes the reduced form of nicotinamide adenine dinucleotide phosphate (NADPH)-dependent reduction of a wide variety of aromatic and aliphatic carbonyl compounds. It is implicated in the development of diabetic and galactosemic complications involving the lens, retina, nerves, and kidney.

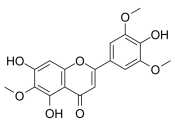
Aldose reductase is both the key enzyme of the polyol pathway, whose activation under hyperglycemic conditions leads to the development of chronic diabetic complications, and the crucial promoter of inflammatory and cytotoxic conditions, even under a normoglycemic status. Aldose reductase represents an excellent drug target and a huge effort is being done to disclose novel compounds able to inhibit it.

Aldose Reductase Inhibitors

6-Methoxytricin

Cat. No.: HY-N6883

6-Methoxytricin (Compound 6) is an flavonoid isolated from Artemisia iwayomogi.

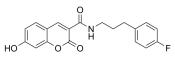


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg

AKR1B10-IN-1

Cat. No.: HY-139696

AKR1B10-IN-1 is a potent inhibitor of **AKR1B10** (Aldo-Keto Reductase 1B10) with an IC_{50} of 3.5 nM. AKR1B10-IN-1 suppresses proliferation, metastasis, and Cisplatin (CDDP) resistance of lung cancer cells.

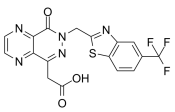


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Aldose reductase-IN-1

Cat. No.: HY-18967

Aldose reductase-IN-1 is a inhibitor of aldose reductase with IC50 of 28.9 pM. IC50 value: 28.9 pM Target: aldose reductase Detailed information please refer to WO2014113380 A1 and US20130225592.

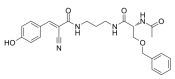


Purity: 99.88%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Aldose reductase-IN-2

Cat. No.: HY-115940

Aldose reductase-IN-2 (Compound 5f) is a potent inhibitor of aldose reductase (**AR**). Aldose reductase-IN-2 has antioxidation capacity. Aldose reductase-IN-2 is a promising anti-diabetic complications agent.

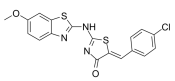


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Aldose reductase-IN-3

Cat. No.: HY-115977

Aldose reductase-IN-3 (Compound 5) is a potent and moderately selective inhibitor of aldose reductase (**AR**) with an IC_{50} of 3.99 μM. Aldose reductase has recently emerged as a molecular target that is involved in various inflammatory diseases, including sepsis.

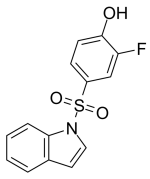


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Aldose reductase-IN-4

Cat. No.: HY-146661

Aldose reductase-IN-4 (compund IIc) is an **aldose reductase** inhibitor with IC_{50}s of 11.70 μM and 0.98 μM for **aldehyde reductase 1 (ALR1)** and **ALR2**, respectively.



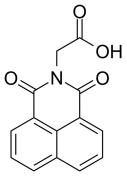
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Alrestatin

(AY-22284)

Cat. No.: HY-B1202

Alrestatin is an inhibitor of aldose reductase, an enzyme involved in the pathogenesis of complications of diabetes mellitus, including diabetic neuropathy.



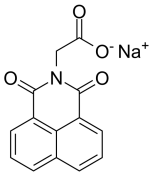
Purity: 99.80%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg, 500 mg

Alrestatin sodium

(AY-22284A)

Cat. No.: HY-B1202A

Alrestatin sodium is an inhibitor of aldose reductase, an enzyme involved in the pathogenesis of complications of diabetes mellitus, including diabetic neuropathy.

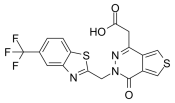


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

AT-007

Cat. No.: HY-129586

AT-007 is an orally active central nervous system (CNS) penetrant **Aldose Reductase** inhibitor for treatment of Galactosemia with an IC_{50} value of 100 pM. AT-007 reduces toxic galactitol levels and prevents disease complications in GALT deficiency rats.

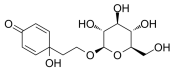


Purity: 99.33%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Cornoside

Cat. No.: HY-N7962

Cornoside is a phenolic glycoside and has inhibitory effect on rat lens aldose reductase (AR) with an IC_{50} of 150 μM.



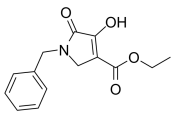
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Tel: 609-228-6898 Fax: 609-228-5909 Email: sales@MedChemExpress.com

EBPC

Cat. No.: HY-100969

EBPC is a potent and selective **aldose reductase** inhibitor with an **IC_{50}** of 47 nM.



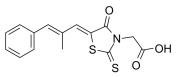
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Epalrestat

(ONO2235)

Cat. No.: HY-66009

Epalrestat is an aldose reductase inhibitor for the treatment of diabetic neuropathy. Target: Aldose Reductase Epalrestat may affect or delay progression of the underlying disease process.

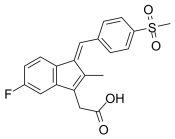


Purity: 99.59%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Exisulind

Cat. No.: HY-13633

Exisulind is an inactive metabolite of the nonsteroidal, anti-inflammatory agent sulindac. Exisulind inhibits aldose reductase with an **IC_{50}** of 367 nM in vitro and may contribute to the beneficial pharmacological effects of sulindac on type 2 diabetic complications.



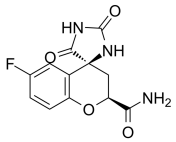
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Fidarestat

(SNK 860)

Cat. No.: HY-105185

Fidarestat (SNK 860) is an inhibitor of **aldose reductase**, with **IC_{50}**s of 26 nM, 33 μM, and 1.8 μM for aldose reductase, AKR1B10 and V301L AKR1B10, respectively; Fidarestat (SNK 860) has the potential to treat diabetic disease.

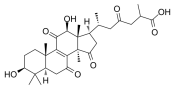


Purity: 99.35%
Clinical Data: Launched
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg

Ganoderic acid C6

Cat. No.: HY-N2461

Ganoderic acid C6 has **aldose reductase** inhibitory activity.



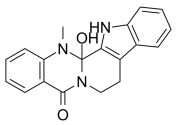
Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg

Hydroxyevodiamine

(Rhetsinine)

Cat. No.: HY-N2494

Hydroxyevodiamine (Rhetsinine) inhibits aldose reductase with an IC_{50} value of 24.1 μM.



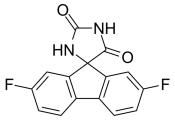
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Imirestat

(AL 1576; Alcon 1576; HOE 843)

Cat. No.: HY-16255

Imirestat (AL 1576) is an **aldose reductase** inhibitor, used for the treatment of diabetes.



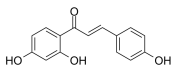
Purity: 99.86%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Isoliquiritigenin

(GU17; ISL; Isoliquiritigen)

Cat. No.: HY-N0102

Isoliquiritigenin is an anti-tumor flavonoid from the root of Glycyrrhiza glabra, which inhibits **aldose reductase** with an **IC_{50}** of 320 nM. Isoliquiritigenin is a potent inhibitor of **influenza virus** replication with an **EC_{50}** of 24.7 μM.



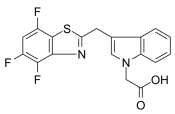
Purity: 98.17%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 200 mg

Lidorestat

(IDD-676)

Cat. No.: HY-106198

Lidorestat (IDD-676) is a potent, selective and orally active **aldose reductase** inhibitor with an **IC_{50}** of 5 nM. Lidorestat can be used for chronic diabetes complications. Lidorestat also improves nerve conduction and reduces cataract formation.

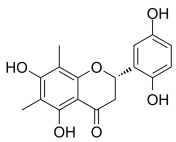


Purity: 99.50%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 25 mg

Myrciacetin

Cat. No.: HY-N9335

Myrciacetin is a flavonoid from Rhododendron dauricum. Myrciacetin is against rat lens **aldose reductase** with an **IC_{50}** of 13 μM.

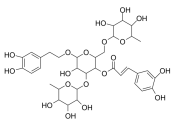


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg

Poliumoside

Cat. No.: HY-N0033

Poliumoside, a caffeoylated phenylpropanoid glycoside, is isolated from Brandisia hancei stems and leaves. Poliumoside is an advanced glycation end product (AGE) formation and rat lens **aldose reductase** (**RLAR**) inhibitor, with IC_{50}s of 19.69 and 8.47 μM, respectively.



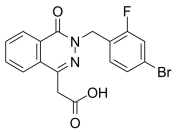
Purity: 99.80%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Ponalrestat

(ICI 128436)

Cat. No.: HY-106697

Ponalrestat (ICI 128436) is an orally active, selective and noncompetitive **aldose reductase (AKR1B1; ALR)** inhibitor. Ponalrestat selectively inhibits ALR2 (K_i=7.7 nM) over ALR1 (K_i=60 μM). Ponalrestat inhibits the conversion of glucose to sorbitol.

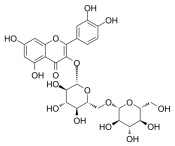


Purity: 99.71%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Quercetin 3-gentiobioside

Cat. No.: HY-N4089

Quercetin 3-gentiobioside is isolated from A. iwayomogi, **AR** and **AGE** formation inhibitor, demonstrates biological activities against Aldose reductase (AR) and the formation of advanced glycation endproducts (AGEs).



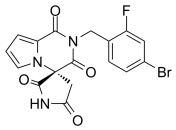
Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Ranirestat

(AS-3201)

Cat. No.: HY-15314

Ranirestat (AS-3201) potent and orally active **aldose reductase (AR)** inhibitor with IC_{50}s of 11 nM and 15 nM for **rat lens AR** and **recombinant human AR**, respectively, and a K_i of 0.38 nM for **recombinant human AR**.



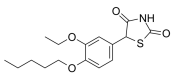
Purity: 98.32%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Risarestat

(CT 112)

Cat. No.: HY-16433

Risarestat (CT-112), an **aldose reductase** inhibitor, is developed for the treatment of diabetic complications.

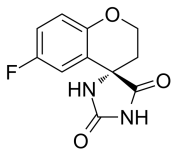


Purity: 98.09%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Sorbinil

Cat. No.: HY-50289

Sorbinil, is an Aldose reductase inhibitor (**ARI**). Sorbinil plays therapeutic role in treating diabetes and diabetic complications, decreases AR activity and inhibits polyol pathway, it to be found comparatively safer than other ARIs for human use.



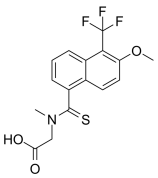
Purity: 99.85%
Clinical Data: Phase 3
Size: 1 mg

Tolrestat

(AY-27773)

Cat. No.: HY-16500

Tolrestat is a potent, orally active **aldose reductase** inhibitor with IC_{50} of 35 nM.

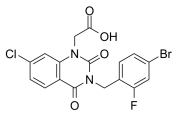


Purity: 99.37%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Zenarestat

Cat. No.: HY-116239

Zenarestat is a potent and orally active **aldose reductase** inhibitor. Zenarestat improves diabetic peripheral neuropathy in Zucker diabetic fatty rats.



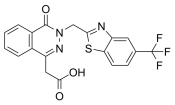
Purity: 99.78%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Zopolrestat

(CP73850)

Cat. No.: HY-19687

Zopolrestat (CP73850) is a potent, orally active **aldose reductase (AR)** inhibitor with an IC_{50} of 3.1 nM. Zopolrestat is used for the research of diabetic complications.



Purity: 99.94%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg