

Carbonic Anhydrase

Carbonate dehydratase

Carbonic anhydrase (CA) is a zinc-containing enzyme that catalyzes the reversible hydration of carbon dioxide: $CO_2 + H_2O + H_2O + H_3O + H^+$. Eight genetically distinct carbonic anhydrase enzyme families (α -, β -, γ - δ -, ζ -, η -, θ - and ι - CAs) were described to date. Carbonic anhydrases are involved in numerous physiological and pathological processes. Many of them are important therapeutic targets with the potential to be inhibited to treat a range of disorders including oedema, glaucoma, obesity, cancer, epilepsy, and osteoporosis.

The carbonic anhydrase reaction is involved in many physiological and pathological processes, including respiration and transport of CO2 and bicarbonate between metabolizing tissues and lungs; pH and CO2 homeostasis; electrolyte secretion in various tissues and organs; biosynthetic reactions (such as gluconeogenesis, lipogenesis, and ureagenesis); bone resorption; calcification; and tumorigenicity. α -CAs are Zn²⁺ metalloproteins expressed in animals, vertebrates, prokaryotes, fungi, algae, protozoa, and plants. Sixteen mammalian α -CA isoforms are known to be involved in many diseases such as glaucoma, edema, epilepsy, obesity, hypoxic tumors, neuropathic pain, arthritis, neurodegeneration, etc.

Carbonic Anhydrase Inhibitors

(E)-Dehydrodiconiferyl alcohol	Cot No : UV NO6924	2-Aminobenzenesulfonamide (Orthanilamide)	Cat No. LIV D2147
 (E)-Dehydrodiconiferyl alcohol behaves as good hCA IX and hCA XII dual inhibitors. And (E)-Dehydrodiconiferyl alcohol suppresses the NF-κB nuclear translocation in connective tissue of healing area. 	Сат. No.: HY-N2682A	2-Aminobenzenesulfonamide is a carbonic anhydrase IX inhibitor.	Cat. No.: HY-B2147
Purity:>98%Clinical Data:No Development ReportedSize:5 mg, 10 mg, 25 mg		Purity:99.80%Clinical Data:No Development ReportedSize:10 mM × 1 mL, 100 mg	NH ₂
Acetazolamide	Cat. No. : HY-B0782	Acetazolamide-13C2,d3	Cat. No.: HY-B0782S1
Acetazolamide is a carbonic anhydrase (CA) IX inhibitor with an I C _{so} of 30 nM for hCA IX. Diuretic effects.	N-N Q N-S S-NH ₂	Acetazolamide-13C2,d3 is the 13C- and deuterium labeled. Acetazolamide is a carbonic anhydrase (CA) IX inhibitor with an IC50 of 30 nM for hCA IX. Diuretic effects.	а _{зс} р ₂ с н s о
Purity: 99.97% Clinical Data: Launched Size: 10 mM × 1 mL, 500 mg, 1 g, 5 g		Purity:>98%Clinical Data:Size:1 mg, 5 mg	
Acetazolamide-d3	Cat. No.: HY-B0782S	Benzolamide (CL11366)	Cat. No .: HY-118467
Acetazolamide D3 is deuterium labeled Acetazolamide, which is a potent carbonic anhydrase (CA) inhibitor.		Benzolamide (CL11366) is a potent carbonic anhydrase (CA) inhibitor, with K _S of 15 nM, 9 nM, 94 nM and 78 nM for hCA I , hCA II , EcoCAy and VchCAy , respectively. Benzolamide also inhibits CAS3 , with a K ₁ of 54 nM. Benzolamide can be used for the research of glaucoma and seizures.	
Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg, 10 mg		Purity: 98.07% Clinical Data: No Development Reported Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg	
Benzthiazide	Cat. No.: HY-B1424	Benzthiazide-d7	Cat. No.: HY-B1424S
Benzthiazide is a long-acting diuretic and a hypertension agent. Benzthiazide is an inhibitor of carbonic anhydrase 9 (CA9), with Ks of 8.0, 8.8 and 10 nM for CA9, CA2 and CA1, respectively. Benzthiazide also suppresses proliferation of cancer cells. Purity: 99.40% Clinical Data: No Development Reported Size: 10 mM × 1 mL, 100 mg, 500 mg	H _M N _S O O CI N N N S	Benzthiazide-d7 is the deuterium labeled Benzthiazide. Benzthiazide is a long-acting diuretic and a hypertension agent. Benzthiazide is an inhibitor of carbonic anhydrase 9 (CA9), with K,s of 8.0, 8.8 and 10 nM for CA9, CA2 and CA1, respectively.Purity:>98% Clinical Data:No Development Reported Size:2.5 mg, 25 mg	
Brinzolamide		Brinzolamide-d5	
(AL-4862) Brinzolamide(AL 4862) is a potent carbonic anhydrase II inhibitor with IC50 of 3.19 nM.	Cat. No.: HY-B0588	(AL-4862-d5) Brinzolamide-d5 (AL-4862-d5) is the deuterium labeled Brinzolamide. Brinzolamide (AL 4862) is a potent carbonic anhydrase II inhibitor with IC_{50} of 3.19 nM.	Cat. No.: HY-B05885
Purity: 99.33% Clinical Data: Launched Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg	0.0	Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	D, I, D

CAIX Inhibitor S4		Carbonic anhydrase inhibitor 10	
CAIX Inhibitor S4 is a potent and selective inhibitor of carbonic anhydrase IX/XII (CA IX/XII) , with a K ₁ of 7 nM and 2 nM, respectively. CAIX Inhibitor S4 also inhibits CA II and CA I (K ₁ =546 and 5600 nM, respectively). Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg	Cat. No.: HY-110243	$\label{eq:carbonic anhydrase inhibitor 10 is a potent hCA IX inhibitor with a K_i value of 6.2 nM. Carbonic anhydrase inhibitor 10 exhibits anti-proliferative activity against MCF-7 cancer cell line with an IC_{50} of 11.9 \mu$ M. Carbonic anhydrase inhibitor 10 can be used for cancer research. Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg	Cat. No.: HY-11599
Carbonic anhydrase inhibitor 11	Cat. No.: HY-115998	Carbonic anhydrase inhibitor 12	Cat. No.: HY-11599
Carbonic anhydrase inhibitor 11 (compound VI) is a potent, selective carbonic anhydrase inhibitor. Carbonic anhydrase inhibitor 11 shows K, values of 40, 39, 200 and 900 nM against CA II, IX, and XII, respectively.	P P P P P P P P P P P P P P P P P P P	Carbonic anhydrase inhibitor 12 is a potent CA II inhibitor, also has inhibitory activity in CA I (K ₁ s of 1.72 and 271 nM in CA II and CA I, respectively). Carbonic anhydrase inhibitor 12 has potent anticancer activity against different cancer cell lines.	Brogens N,
Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg		Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg	
Carbonic anhydrase inhibitor 2	Cat. No.: HY-142849	Carbonic anhydrase inhibitor 3	Cat. No. : HY-14285.
Carbonic anhydrase inhibitor 3 (compound 7c) is a carbonic anhydrase II inhibitor. Carbonic anhydrase inhibitor 3 reduces the intraocular pressure in glaucomatous rabbits.		Carbonic anhydrase inhibitor 3 (compound 11g) is a carbonic anhydrase II inhibitor. Carbonic anhydrase inhibitor 3 reduces the intraocular pressure in glaucomatous rabbits.	
Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg		Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	
Carbonic anhydrase inhibitor 4	Cat. No.: HY-144376	Carbonic anhydrase inhibitor 5	Cat. No. : HY-14463
Carbonic anhydrase inhibitor 4 is carbonic anhydrase photoprobe/inhibitor. Carbonic anhydrase inhibitor 4 is against human carbonic anhydrases (hCA I-XIV) with K _i values of 640-1166 nM.	C C C C C C C C C C C C C C C C C C C	Carbonic anhydrase inhibitor 5 is a potent and selective human carbonic anhydrase (hCA) inhibitor with IC_{so} s of 42.9, 47,6 and 6.7 nM for hCA II, hCA IX and hCA XII, respectively.	
Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg		Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	0=\$=0 NH2
Carbonic anhydrase inhibitor 6	Cat. No.: HY-144640	Carbonic anhydrase inhibitor 7	Cat. No. : HY-14464
Carbonic anhydrase inhibitor 6 (compound 9b) is a potent inhibitor of human carbonic anhydrase (hCA), with K _i s of 9.7 nM, 35.2 nM, 88.5 nM, and 91.8 nM for hCA IX, hCA II, hCA XII and hCA I, respectively.		Carbonic anhydrase inhibitor 7 (compound 5b) is a potent inhibitor of human carbonic anhydrase (hCA), with K _i s of 6.5 nM, 7.1 nM, 72.1 nM, and 255.8 nM for hCA IX, hCA II, hCA XII and hCA I, respectively.	
Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg	0=\$=0 NH ₂	Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg	0=\$=0 NH2

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Carbonic anhydrase inhibitor 8		Carbonic anhydrase inhibitor 9	
	Cat. No.: HY-115984		Cat. No.: HY-144807
Carbonic anhydrase inhibitor 8 (compound R-13), a benzyl-derivative, is a potent human carbonic anhydrase (hCA) inhibitor with K _i values of 60.7 nM, 320.7 nM, 2298 nM for hCA I, hCA II, hCA IV, respectively.	O O O O O O O O O O O O O O O O O O O	Carbonic anhydrase inhibitor 9 is a potent carbonic anhydrase (CA) inhibitor with K _i s of 56.4 and 56.9nM for hCA II and IX, respectively. Antiproliferative activity.	HN-NH
Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg		Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	0≤\$≤0 NH₂
Clofenamide (Aquedux)	Cat. No.: HY-119919	Dichlorphenamide (Diclofenamide)	Cat. No.: HY-B0397
Clofenamide (Aquedux) is a carbonic anhydrase (CA) inhibitor. Clofenamide exhibits diuretic activity.		Dichlorphenamide(Diclofenamide) is a carbonic anhydrase inhibitor that is used in the treatment of glaucoma.	
Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg		Purity: 98.39% Clinical Data: Launched Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg	CI
Dimethylfraxetin (6,7,8-Trimethoxycoumarin; Fraxetin dimethyl ether)	Cat. No. : HY-N0085	Dorzolamide (L671152; MK507)	Cat. No.: HY-B0109
Dimethylfraxetin is a Carbonic anhydrase inhibitor, with a K_i value of 0.0097 μ M.		Dorzolamide (L671152) is a potent carbonic anhydrase II inhibitor, with IC ₅₀ values of 0.18 nM and 600 nM for red blood cell CA-II and CA-I respectively. Dorzolamide possesses anti-tumor activity. br/>.	0,0 ,S S S S S S S S S S S S S S S S S S
Purity:99.97%Clinical Data:No Development ReportedSize:10 mM × 1 mL, 5 mg, 10 mg, 25 mg	0 ~ ~	Purity:>98%Clinical Data:LaunchedSize:1 mg, 5 mg	HN
Dorzolamide hydrochloride (L671152 hydrochloride; MK507 hydrochloride)	Cat. No.: HY-B0109A	Dorzolamide-d5	Cat. No.: HY-B0109S
Dorzolamide (L671152) hydrochloride is a potent carbonic anhydrase II inhibitor, with IC ₅₀ values of 0.18 nM and 600 nM for red blood cell CA-II and CA-I respectively. Dorzolamide possesses anti-tumor activity. .		Dorzolamide-d5 (L671152-d5) is the deuterium labeled Dorzolamide. Dorzolamide (L671152) is a potent carbonic anhydrase II inhibitor, with IC _{so} values of 0.18 nM and 600 nM for red blood cell CA-II and CA-I respectively. Dorzolamide possesses anti-tumor activity. Purity: >98%	
Clinical Data: Launched Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg		Clinical Data: Size: 1 mg, 10 mg	U
EMAC10101d		Ethoxzolamide	
EMAC10101d is a potent and selective toward hCA II	Cat. No.: HY-138365	(Redupresin; L-643786; PNU-4191) Ethoxzolamide is a carbonic anhydrase inhibitor	Cat. No.: HY-B1480
inhibitor, with a K _i of 8.1 nM.	S NH2	with K _i of 1 nM.	→O N N S NH: NH: NH: NH: NH: NH: NH: NH:
Purity:99.89%Clinical Data:No Development ReportedSize:5 mg, 10 mg, 25 mg, 50 mg, 100 mg	cr,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Purity:99.43%Clinical Data:LaunchedSize:10 mM × 1 mL, 100 mg	

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Fluorometholone acetate	Cat. No.: HY-B1471	Girentuximab (G250; cG250)	Cat. No.: HY-P99023
Fluorometholone acetate is a synthetic glucocorticoid corticosteroid and a corticosteroid ester. Fluorometholone acetate potently inhibits carbonic anhydrase (CA) with IC ₅₀ s of 2.18 µM and 17.5 µM for hCA-I and hCA-II , respectively.		Girentuximab (G250) is a chimeric monoclonal antibody that binds carbonic anhydrase IX (CAIX) , a cell surface glycoprotein ubiquitously expressed in clear cell renal cell carcinoma (ccRCC).	Girentuximab
Purity: ≥98.0% Clinical Data: Launched Size: 10 mM × 1 mL, 100 mg		Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	
hA2A/hCA XII modulator 1	Cat. No.: HY-146979	Halazone	Cat. No.: HY-B1386
hA2A/hCA XII modulator 1 (compound 14), a triazolopirazine, is a potent hA_{2A} adenosine receptor ($hA_{2A}AR$) antagonist with K ₁ s of 6.4 nM, 4.819 μ M, >30 μ M for $hA_{2A}AR$, $hA_{1}AR$, $hA_{3}AR$, respectively.	NN TO NOT NOT NOT NOT NOT NOT NOT NOT NO	Halazone is an atypical antimicrobial sulfonamide derivative and a carbonic anhydrase II inhibitor with a K_d value of 1.45 μ M. Halazone protects sodium channels from inactivation. Halazone is widely used for disinfection of drinking water.	CI-N-S CI-N-S CI-N-S
Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg		Purity: ≥90.0% Clinical Data: Launched Size: 50 mg, 100 mg, 250 mg, 500 mg	
hCAII-IN-1	Cat. No.: HY-146982	hCAIX-IN-3	Cat. No.: HY-146983
hCAII-IN-1 (compound 7f) is a potent and selective inhibitor of carbonic anhydrase (CA II/IX) with Ks of 1.2 and 113.6 nM, respectively. hCAII-IN-1 has the potential for the research of cancer diseases.	Breed and a state of the state	hCAII-IN-3 (compound 7e) is a potent and selective inhibitor of carbonic anhydrase (CA II/IX) with K _s of 124.2 and 30.5 nM, respectively. hCAII-IN-3 has the potential for the research of cancer diseases.	Br. C. N. N. J. H. O. O. M.
Purity: >98% Clinical Data: No Development Reported Size: 1 mg, 5 mg		Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	
hCAIX/XII-IN-1	Cat. No.: HY-146988	Human carbonic anhydrase II-IN-1	Cat. No. : HY-144264
hCAIX/XII-IN-1 is a potent CAIX/XII inhibitor with the K ₁ values of 0.48 μ M and 0.83 μ M for CAIX and CAXII, respectively. hCAIX/XII-IN-1 shows antiproliferative activity in vitro. hCAIX/XII-IN-1 induces apoptosis in MCF-7 cells.		Human carbonic anhydrase II-IN-1 (Compound S-13) is a potent human carbonic anhydrase II (hCA II) inhibitor with a K _i of 4.4 nM. Human carbonic anhydrase II-IN-1 also inhibits other hCAs isoforms I, IV and IX, with K _i values of 9.2 nM, 480.2 nM and 14.7 nM, respectively.	
Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg		Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg	
Human carbonic anhydrase II-IN-2	Cat. No.: HY-144268	Indisulam (E 7070)	Cat. No.: HY-13650
Human carbonic anhydrase II-IN-24 (Compound R-13) is a potent human carbonic anhydrase (hCA) inhibitor with K_i s of 60.7, 320.7, 2298, and 35.2 nM for hCA I, II, IV and IX, respectively.	C N O O NH2	Indisulam (E 7070) is a carbonic anhydrase inhibitor with anticancer activity. Indisulam (E 7070) is a sulfonamide agent that targets the G1 phase of the cell cycle.	H ₂ N _S o o S NH H
Purity:>98%Clinical Data:No Development ReportedSize:1 mg, 5 mg		Purity: 99.55% Clinical Data: Phase 2 Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg	CI

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Methazolamide	Cot No. UN DOLLO	Methazolamide-d6	
(L584601) Methazolamide (L584601) is a sulfonamide derivative used as a carbonic anhydrase inhibitor with a K _i of 14 nM for human carbonic anhydrase II. Purity: 99.80% Clinical Data: Launched	Cat. No.: HY-B0553	(L584601-d6) Methazolamide-d6 (L584601-d6) is the deuterium labeled Methazolamide. Methazolamide (L584601) is a sulfonamide derivative used as a carbonic anhydrase inhibitor with a K _i of 14 nM for human carbonic anhydrase II. Purity: >98% Clinical Data: No Development Reported	Cat. No.: HY-B0553S O = S = O D = N D = N D = D D = D D = D D = D D = D D = D
Size: 10 mM × 1 mL, 100 mg, 500 mg, 1 g, 5 g Methyclothiazide Methyclothiazide is an orally active antihypertensive agent and a diuretic	Cat. No.: HY-B0562	Size: 1 mg, 5 mg Polmacoxib (CG100649) Polmacoxib (CG100649) is a first-in-class, orally active nonsteroidal anti-inflammatory drug (NSAID)	Cat. No.: HY-16726
agent. Purity: 99.72% Clinical Data: Launched Size: 10 mM × 1 mL, 10 mg, 25 mg, 50 mg		 which is a dual inhibitor of COX-2 (IC₅₀ around 0.1 μg/ml) and carbonic anhydrase. Polmacoxib inhibits colorectal adenoma and tumor growth in mouse models. Purity: 99.70% Clinical Data: Launched Size: 5 mg, 10 mg, 25 mg 	
Sulthiame-d4	Cat. No.: HY-108316S	Sultiame	Cat. No.: HY-108316
Sulthiame-d4 is the deuterium labeled Sultiame. Sultiame is a carbonic anhydrase inhibitor, widely used as an antiepileptic agent.		Sultiame is a carbonic anhydrase inhibitor, widely used as an antiepileptic drug.	
Purity:>98%Clinical Data:Size:1 mg, 10 mg	Ō	Purity:99.76%Clinical Data:No Development ReportedSize:5 mg, 10 mg, 25 mg, 50 mg, 100 mg	0 11/2
Tioxolone	Cat. No.: HY-B0483	Topiramate (McN 4853; RWJ 17021)	Cat. No.: HY-B0122
Tioxolone, a metalloenzyme carbonic anhydrase I inhibitor, is an anti-acne preparation. Target: Carbonic Anhydrase Tioxolone is a metalloenzyme carbonic anhydrase I inhibitor with a Ki of 91 nM.	HOUSSO	Topiramate (McN 4853) is a broad-spectrum antiepileptic agent. Topiramate is a GluR5 receptor antagonist.	$\times_{0^{\mu}}^{0^{\mu}} \overbrace{0^{\nu}}^{0} \overbrace{0^{\nu}}^{0^{\nu}} \overset{0^{\nu}}{\overset{0^{\nu}}} \overset{NH_2}{\overset{0^{\nu}}}$
Purity:98.83%Clinical Data:No Development ReportedSize:10 mM × 1 mL, 500 mg, 1 g		Purity: ≥98.0% Clinical Data: Launched Size: 10 mM × 1 mL, 100 mg, 500 mg	
Topiramate D12 (McN 4853 D12 ; RWJ 17021 D12)	Cat. No.: HY-110234	U-104 (SLC-0111)	Cat. No.: HY-13513
Topiramate D12 (McN 4853 D12) is a deuterium labeled Topiramate. Topiramate is a broad-spectrum antiepileptic agent. Topiramate is a GluR5 receptor antagonist.		U-104 (SLC-0111) is a potent carbonic anhydrase (CA) inhibitor for CA IX and CA XII with K_i values of 45.1 nM and 4.5 nM, respectively. U-104 shows a significant delay in tumor growth in mice model.	F C A C S C S C S C S C S C S C S C S C S
Purity:>98%Clinical Data:No Development ReportedSize:5 mg, 10 mg, 25 mg	н	Purity: 99.91% Clinical Data: No Development Reported Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 500 mg	

Zonisamide (AD 810; CI 912) Cat. No.: HY-B0124 Zonisamide (AD 810) is an inhibitor of zinc enzyme carbonic anhydrase (CA), with K_is of 35.2 nM and 20.6 nM for human mitochondrial isozyme hCA II and $-NH_2$ hCA V, respectively. Zonisamide has antiepileptic \cap activity. Zonisamide can be used for the rsearch for epilepsy, seizures and Parkinson's disease. 99.94% Purity:

Cat. No.: HY-B0124S

NH₂

Zonisamide-d4

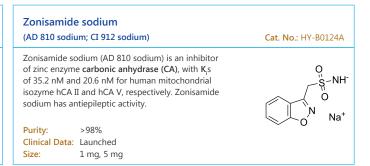
Size:

Clinical Data: Launched

Zonisamide-d4 (AD 810-d4) is the deuterium labeled Zonisamide. Zonisamide (AD 810) is an inhibitor of zinc enzyme carbonic anhydrase (CA), with K_is of 35.2 nM and 20.6 nM for human mitochondrial isozyme hCA II and hCA V, respectively. Zonisamide has antiepileptic activity.

10 mM × 1 mL, 200 mg, 500 mg

>98% Purity: **Clinical Data:** Size: 500 µg, 5 mg



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