CaMK

Calmodulin-dependent protein kinases; Calmodulin-dependent kinases

The Ca^{2+}/calmodulin-dependent kinase (CaMK) family has been recognized as a key mediator in living organisms and various biological processes.

Calcium/calmodulin kinase II (CaMK II) is a multifunctional cytoplasmic calcium and calmodulin-dependent protein kinase that phosphorylates and alters the function of a variety of substrates. The CaMK II pathway has been found to regulate the RANKL-induced osteoclast formation via the cAMP-response element binding protein (CREB) pathway.

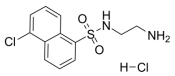
Among many signaling pathways of proliferation, intracellular calciumol/L has been extensively demonstrated to be very important. In cytoplasm, calciumol/L binds to calmodulin, and then activates the Ca^{2+}/calmodulin (CaM) dependent kinases (CaMKs) which are a family of structurally related serine/threonine protein kinases including CaMKI-IV. CaMKII, a multi functional protein kinase, is ubiquitously involved in many physiological processes including control of cell cycle, apoptosis, gene expression, and neurotransmission.

CaMK Inhibitors & Antagonists

A-3 hydrochloride

Cat. No.: HY-125957

A-3 hydrochloride is a potent, cell-permeable, reversible, ATP-competitive non-selective antagonist of various **kinases**. It against PKA (K_i=4.3 μM), casein kinase II (K_i=5.1 μM) and myosin light chain kinase (MLCK) (K_i=7.4 μM).

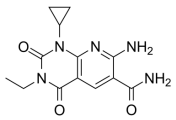


Purity: 99.67%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

A-484954

Cat. No.: HY-110096

A-484954 is a highly selective eukaryotic elongationfactor-2 **(eEF2)** inhibitor, with an IC_{50} of 280 nM.



Purity: 98.01%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

Autocamtide 2

(Autocamtide II)

Cat. No.: HY-P0225

Autocamtide 2 is a highly selective peptide substrate of calcium/calmodulin-dependent protein kinase II (**CaMKII**). It can be used in the CaMKII activity assay.

KKALRRQETVDAL

Purity: 98.17%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Autocamtide 2, amide

Cat. No.: HY-P1528

Autocamtide 2, amide is a substrate (100 μM final concentration) for **CaMK** family assays.

KKALRRQETVDAL-NH_2

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

Autocamtide-2-related inhibitory peptide

Cat. No.: HY-P0214

Autocamtide-2-related inhibitory peptide is a highly specific and potent inhibitor of **CaMKII** with an IC_{50} of 40 nM.

KKALRRQEAVDAL

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

Autocamtide-2-related inhibitory peptide TFA

Cat. No.: HY-P0214A

Autocamtide-2-related inhibitory peptide (TFA) is a highly specific and potent inhibitor of **CaMKII** with an IC_{50} of 40 nM.

KKALRRQEAVDAL (TFA salt)

Purity: 98.48%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Autocamtide-2-related inhibitory peptide, myristoylated

Cat. No.: HY-P0215

Autocamtide-2-related inhibitory peptide, myristoylated is the myristoylated Autocamtide-2-related inhibitory peptide. Autocamtide-2-related inhibitory peptide is a highly specific and potent inhibitor of **CaMKII** with an IC_{50} of 40 nM.

{Lys(Myr)}-KALRRQEAVDAL

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

Autocamtide-2-related inhibitory peptide, myristoylated TFA

Cat. No.: HY-P0215A

Autocamtide-2-related inhibitory peptide, myristoylated TFA is the myristoylated Autocamtide-2-related inhibitory peptide. Autocamtide-2-related inhibitory peptide is a highly specific and potent inhibitor of **CaMKII** with an IC_{50} of 40 nM.

{Lys(Myr)}-KALRRQEAVDAL (TFA salt)

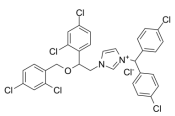
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Calmidazolium chloride

(R 24571)

Cat. No.: HY-103319

Calmidazolium chloride (R 24571) is a **calmodulin (CaMK)** antagonist, antagonizing CaM-dependent phosphodiesterase and calmodulin-induced activation of erythrocyte Ca2+-transporting ATPase with IC_{50}s of 0.15 and 0.35 μM, respectively.



Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Calmodulin-Dependent Protein Kinase II (290-309)

Cat. No.: HY-P1479

Calmodulin-Dependent Protein Kinase II (290-309) is a potent **CaMK** antagonist with an IC_{50} of 52 nM for inhibition of Ca2+/calmodulin-dependent protein kinase II.

LKKFNARRKLKGAILTTMLA

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

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

Calmodulin-Dependent Protein Kinase II(290-309) acetate

Cat. No.: HY-P1479A

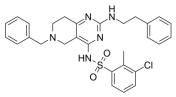
Calmodulin-Dependent Protein Kinase II (290-309) acetate is a potent **CaMK** antagonist with an IC_{50} of 52 nM for inhibition of Ca2+/calmodulin-dependent protein kinase II.

Purity: 98.97%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CaMKII-IN-1

Cat. No.: HY-18271

CaMKII-IN-1 is a potent and highly selective CaMKII inhibitor with IC50 of 63 nM; significantly high selectivity against CaMKIV, MLCK, p38a, Akt1, and PKC. IC50 value: 63 nM Target: CaMKII.



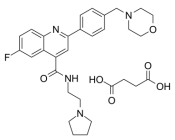
Purity: 99.74%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

DDD107498 succinate

(DDD-498 succinate)

Cat. No.: HY-117684A

DDD107498 succinate (DDD-498 succinate) is a potent and orally active **antimalarial** agent, inhibits multiple life-cycle stages of the parasite, with an EC_{50} of 1 nM against P. falciparum 3D7.



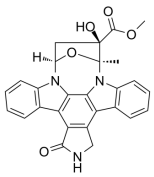
Purity: 98.72%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

K-252a

(SF2370; Antibiotic K 252a; Antibiotic SF 2370)

Cat. No.: HY-N6732

K-252a, a staurosporine analog isolated from Nocardiopsis sp. soil fungi, inhibits **protein kinase**, with IC_{50} values of 470 nM, 140 nM, 270 nM, and 1.7 nM for PKC, PKA, Ca^{2+}/calmodulin-dependent kinase type II, and phosphorylase kinase, respectively.

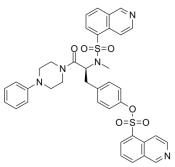


Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg

KN-62

Cat. No.: HY-13290

KN-62 is a selective and potent inhibitor of calmodulin-dependent protein kinase II (**CaMK-II**) with IC_{50} of 0.9 μM, KN-62 also displays noncompetitive antagonism at $P2X_7$ receptors in HEK293 cells, with an IC_{50} value of approximately 15 nM.

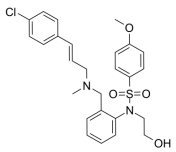


Purity: 99.45%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

KN-93

Cat. No.: HY-15465

KN-93 is a cell-permeable, reversible and competitive inhibitor calmodulin-dependent kinase type II (**CaMKII**) with a K_i of 370 nM.

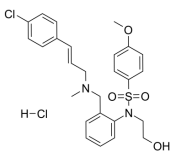


Purity: 99.38%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg

KN-93 hydrochloride

Cat. No.: HY-15465A

KN-93 hydrochloride is a cell-permeable, reversible and competitive inhibitor calmodulin-dependent kinase type II (**CaMKII**) with a K_i of 370 nM.

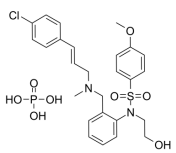


Purity: 99.43%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg

KN-93 phosphate

Cat. No.: HY-15465B

KN-93 phosphate is a novel membrane-permeant synthetic inhibitor of purified neuronal **CaMK-II**, with K_i of 370 nM.

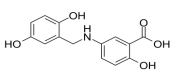


Purity: 99.97%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg

Lavendustin C

Cat. No.: HY-W013857

Lavendustin C is a potent Ca^{2+} **calmodulin-dependent kinase II (CaMK II)** inhibitor with an IC_{50} of 0.2 μM. Lavendustin C inhibits **EGFR**-associated tyrosine kinase (IC_{50}=0.012 μM) and **pp60**$^{c\text{-}src(+)}$ kinase (IC_{50}=0.5 μM) .



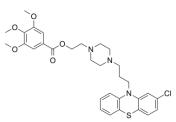
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Metofenazate

(Methophenazine)

Cat. No.: HY-100263

Metofenazate is a selective **calmodulin** inhibitor.



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

MLCK inhibitor peptide 18

Cat. No.: HY-P1029

MLCK inhibitor peptide 18 is a myosin light chain kinase (**MLCK**) inhibitor with an IC_{50} of 50 nM, and inhibits **CaM kinase II** only at 4000-fold higher concentrations.

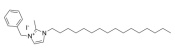
RKKYKYRRK-NH_2

Purity: 99.66%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg, 25 mg

NH125

Cat. No.: HY-100576

NH125 is a potent and selective inhibitor of eukaryotic elongation factor 2 kinase **(eEF-2K/CaMKIII)**, also can induce eEF2 phosphorylation, with an IC_{50} of 60 nM for eEF-2K.

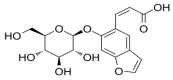


Purity: >98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Psoralenoside

Cat. No.: HY-N7503

Psoralenoside is a benzofuran glycoside from Psoralea corylifolia. Psoralenoside exhibits high binding affinities against **histaminergic H_1**, **calmodulin**, and voltage-gated L-type **calcium channels** (E-value≥-6.5 Kcal/mol).



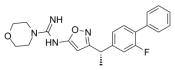
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Rimacalib

(SMP 114)

Cat. No.: HY-100779

Rimacalib (SMP 114) is a **Ca^{2+}/calmodulin-dependent protein kinase II (CaMKII)** inhibitor, with **IC_{50}s** of ~1 μM for **CaMKIIα** to ~30 μM for **CaMKIIγ**.

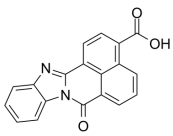


Purity: 98.75%
Clinical Data: Phase 2
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

STO-609

Cat. No.: HY-19805

STO-609 is a selective and cell-permeable inhibitor of the Ca^{2+}/calmodulin-dependent protein kinase kinase (**CaM-KK**), with K_i values of 80 and 15 ng/mL for recombinant CaM-KKα and CaM-KKβ, respectively.



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

Syntide 2

Cat. No.: HY-P0271

Syntide 2, a **Ca^{2+}**- and **calmodulin (CaM)-dependent protein kinase II (CaMKII)** substrate peptide, selectively inhibits the gibberellin (GA) response, leaving constitutive and abscisic acid-regulated events unaffected.

PLARTLSVAGLPGKK

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

Syntide 2 TFA

Cat. No.: HY-P0271A

Syntide 2 (TFA), a **Ca^{2+}**- and **calmodulin (CaM)-dependent protein kinase II (CaMKII)** substrate peptide, selectively inhibits the gibberellin (GA) response, leaving constitutive and abscisic acid-regulated events unaffected.

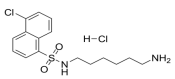
PLARTLSVAGLPGKK (TFA salt)

Purity: 99.76%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

W-7 hydrochloride

Cat. No.: HY-100912

W-7 hydrochloride is a selective **calmodulin** antagonist. W-7 hydrochloride inhibits the **Ca^{2+}-calmodulin**-dependent **phosphodiesterase** and **myosin light chain kinase** with IC_{50} values of 28 μM and 51 μM, respectively. W-7 hydrochloride induces **apoptosis** and has antitumor activity.



Purity: 99.50%
Clinical Data: No Development Reported
Size: 25 mg, 50 mg