Cathepsin

Cathepsins are protease enzymes, categorized into multiple families. Cathepsins can be serine protease, cysteine protease, or aspartyl protease. There are about 15 classes of cathepsins in humans (Cathepsin A, B, C, D, E, F, G, H, K, L, O, S, V, W, and Z). Cathepsins are active in the low pH milieu of lysosomes and are versatile in their functions. Like other enzymes, they are vital for the normal physiological functions such as digestion, blood coagulation, bone resorption, ion channel activity, innate immunity, complement activation, apoptosis, vesicular trafficking, autophagy, angiogenesis, proliferation, and metastasis, among scores of others.

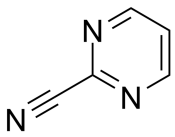
Numerous pathologies have been attributed to the dysregulated cathepsins, some of which include arthritis, periodontitis, pancreatitis, macular degeneration, muscular dystrophy, atherosclerosis, obesity, stroke, Alzheimer's disease, schizophrenia, tuberculosis, and Ebola.

Cathepsin Inhibitors

2-Cyanopyrimidine

Cat. No.: HY-Y0241

2-Cyanopyrimidine is a potent and non-selective **cysteine protease cathepsin K** inhibitor with an IC_{50} of 170 nM. 2-Cyanopyrimidine is used for osteoporos.

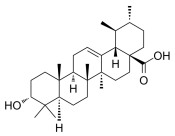


Purity: 99.92%
Clinical Data: No Development Reported
Size: 100 mg

3-Epiursolic Acid

Cat. No.: HY-N4289

3-Epiursolic Acid is a triterpenoid isolated from Myrtaceae, acts as a competitive inhibitor of **cathepsin L** (ICIC_{50}, 6.5 μM; K_i, 19.5 μM), with no obvious effect on cathepsin B.

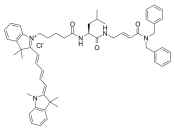


Purity: 99.49%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 20 mg

ABP 25

Cat. No.: HY-139685

ABP 25 is an activity-based probe for **cathepsin K** imaging with excellent potency and selectivity.



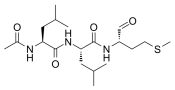
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

ALLM

(Calpain inhibitor II)

Cat. No.: HY-118355

ALLM (Calpain inhibitor II) is a potent inhibitor of **calpain** and **cathepsin** proteases. ALLM inhibits neuronal cell death and improves chronic neurological function after spinal cord injury (SCI).



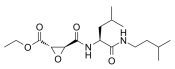
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Aloxistatin

(E64d; E64c ethyl ester)

Cat. No.: HY-100229

Aloxistatin (E64d) is a cell-permeable and irreversible broad-spectrum **cysteine protease** inhibitor. Aloxistatin (E64d) exhibits entry-blocking effect for MERS-CoV.

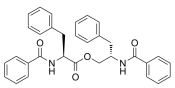


Purity: 99.55%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Asperphenamate

Cat. No.: HY-129578

Asperphenamate, a fungal metabolite of Aspergillus flatiipes with anti-cancer effect, exhibits IC_{50} values of 92.3 μM, 96.5 μM and 97.9 μM in T47D, MDA-MB-231 and HL-60 cells, respectively.

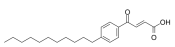


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Atg4B-IN-2

Cat. No.: HY-144636

Atg4B-IN-2 is a potent competitive **Atg4B** inhibitor with K_i value of 3.1 μM, also possesses declining **PLA_2** inhibitory potency, **IC_{50}**s of 11 μM and 3.5 μM for Atg4B and PLA_2, respectively.



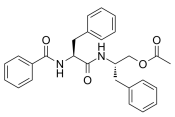
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Aurantiamide acetate

(Asperglaucide)

Cat. No.: HY-N2905

Aurantiamide acetate (TMC-58A) is a selective and orally active **cathepsin** inhibitor isolated from Portulaca oleracea L. Aurantiamide acetate has anti-inflammatory activities and can be used for the study of inflammatory diseases.



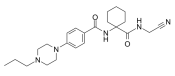
Purity: 99.24%
Clinical Data: No Development Reported
Size: 5 mg

Balicatib

(AAE581)

Cat. No.: HY-15100

Balicatib(AAE-581) is a potent and selective inhibitor of cathepsin K; 10-100 fold more potent in cell-based enzyme occupancy assays than against cathepsin B, L, and S.

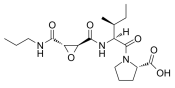


Purity: 99.07%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

CA-074

Cat. No.: HY-103350

CA-074 is a potent inhibitor of **cathepsin B** with a K_i of 2 to 5 nM.



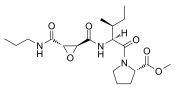
Purity: 99.85%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg

CA-074 methyl ester

(CA-074Me)

Cat. No.: HY-100350

CA-074 methyl ester is a specific inhibitor of **Cathepsin B**, which has potent bioactivities such as neuroprotective, anti-cancer, and anti-inflamatory effects.

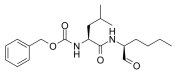


Purity: 99.15%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg

Calpeptin

Cat. No.: HY-100223

Calpeptin is a potent, cell penetrating **calpain** inhibitor, with an ID_{50} of 40 nM for Calpain I in human platelets. Calpeptin is also an inhibitor of **cathepsin K**.



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

Cathepsin D and E FRET Substrate

Cat. No.: HY-P2498

Cathepsin D and E FRET Substrate is a **fluorogenic substrate** for cathepsins D and E and not for B, H or L. The cleavage occurs at the Phe-Phe amide bond resul. Cathepsin D and E FRET Substrate is a valuable tool for routine assays and for mechanistic studies on cathepsins E and D.

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

Cathepsin D and E FRET Substrate acetate

Cat. No.: HY-P2498A

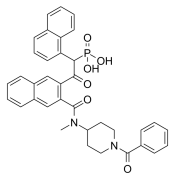
Cathepsin D and E FRET Substrate acetate is a **fluorogenic substrate** for cathepsins D and E and not for B, H or L. The cleavage occurs at the Phe-Phe amide bond resul. Cathepsin D and E FRET Substrate is a valuable tool for routine assays and for mechanistic studies on cathepsins E and D.

Purity: 99.06%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg

Cathepsin G Inhibitor I

Cat. No.: HY-103351

Cathepsin G Inhibitor I is a potent, selective, reversible, competitive, non-peptide inhibitor of **cathepsin G**.

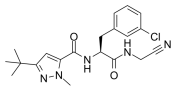


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Cathepsin inhibitor 1

Cat. No.: HY-100231

Cathepsin inhibitor 1 (compound 25) is a potent and selective inhibitor of **Cathepsin**, with pIC_{50}s of 7.9, 6.7, 6.0, 5.5 and 5.2 for **CatL**, **CatL2**, **CatS**, **CatK**, and **CatB**, respectively.

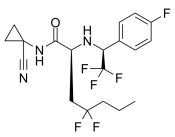


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg

Cathepsin Inhibitor 2

Cat. No.: HY-U00377

Cathepsin Inhibitor 2 is a potent **Cathepsin S** inhibitor extracted from patent WO2009123623A1, has a K_i of <20 nM.

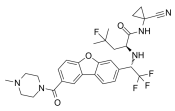


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Cathepsin K inhibitor 2

Cat. No.: HY-143714

Cathepsin K inhibitor 2 is a potent inhibitor of **cathepsin K**. Cathepsin K, Cat K is a cysteine protease expressed under the control of CTSK gene and closely related to osteoporosis, whose main function is to hydrolyze collagen.



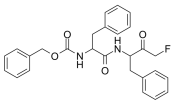
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Cathepsin L-IN-2

(Z-Phe-Phe-FMK)

Cat. No.: HY-115733

Cathepsin L-IN-2 (Z-Phe-Phe-FMK) is a potent and irreversible **cathepsin L** and **cathepsin B** inhibitor.



Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

Chymostatin

Cat. No.: HY-P3042

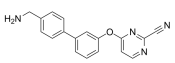
Chymostatin is a potent **cathepsin G** inhibitor. Chymostatin inhibits fungal growth when combined with other pepsin inhibitors. Chymostatin can be used for acute lung injury and pancreatitis research.

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

Cysteine Protease inhibitor

Cat. No.: HY-17541

Cysteine Protease inhibitor is an inhibitor of **cysteine protease**. IC50 & Target: Cysteine Protease.

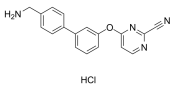


Purity: 96.29%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

Cysteine Protease inhibitor hydrochloride

Cat. No.: HY-17541A

Cysteine Protease inhibitor hydrochloride is an inhibitor of **cysteine protease**. IC50 & Target: Cysteine Protease.

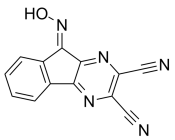


Purity: 96.22%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Cysteine protease inhibitor-2

Cat. No.: HY-21141

Cysteine protease inhibitor-2 is a **cysteine protease** inhibitor extracted from patent US20070032499A1, compound 12. Cysteine protease inhibitor-2 inhibits the cells growth of DCT116 and PC3 cells with GI_{50} values of 6.5 μM and 4.4 μM, respectively.

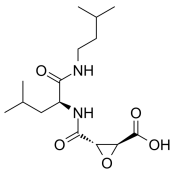


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

E 64c

Cat. No.: HY-100227

E 64c is a derivative of naturally occurring epoxide inhibitor of **cysteine proteases**, a Calcium-activated neutral protease **(CANP)** inhibitor and a very weak irreversible **cathepsin C** inhibitor. E 64c exhibits entry-blocking effect for MERS-CoV.



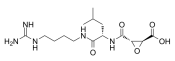
Purity: 99.73%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

E-64

(Proteinase inhibitor E 64)

Cat. No.: HY-15282

E-64 (Proteinase inhibitor E 64) is a potent irreversible inhibitor against general **cysteine proteases** with IC_{50} of 9 nM for **papain**.

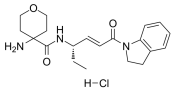


Purity: 99.96%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

GSK-2793660

Cat. No.: HY-112318A

GSK-2793660 is an orally active and irreversible inhibitor of **Cathepsin C** (**CTSC**). GSK-2793660 can be used for the research of bronchiectasis.

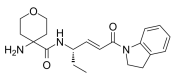


Purity: 99.66%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg

GSK-2793660 free base

Cat. No.: HY-112318

GSK-2793660 (free base) is an oral, irreversible inhibitor of **Cathepsin C** (**CTSC**). GSK-2793660 (free base) can be used for the research of bronchiectasis.

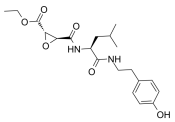


Purity: >98%
Clinical Data: Phase 1
Size: 5 mg, 10 mg, 25 mg, 50 mg

JPM-OEt

Cat. No.: HY-102087

JPM-OEt is a broad spectrum **cysteine cathepsin** inhibitor. JPM-OEt binds covalently in the active site, and irreversibly inhibits the cysteine cathepsin family. Antitumor activity.

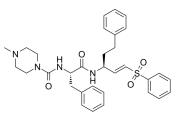


Purity: 98.61%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

K777

Cat. No.: HY-119293

K777 is a potent, orally active and irreversible **cysteine protease** inhibitor. K777 is also a potent **CYP3A4** inhibitor with an IC_{50} of 60 nM and a selective **CCR4** antagonist featuring the potent chemotaxis inhibition.



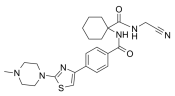
Purity: 99.60%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

L-006235

(L-235)

Cat. No.: HY-103352

L-006235 (L-235) is a potent, selective, reversible and orally active inhibitor of **cathepsin K**, with an IC_{50} of 5 nM in bone resorption assay. L-006235 shows selectivity for cathepsin K (K_i=0.2 nM) over cathepsin B, cathepsin L, and cathepsin S (K_i=1, 6, and 47 μM, respectively).

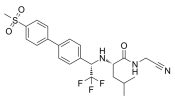


Purity: 99.96%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

L-873724

Cat. No.: HY-50887

L-873724 is a potent, orally bioavailable, selective and reversible non-basic cathepsin K inhibitor, with IC_{50}s of 0.2, 178, 264, and 5239 nM for cathepsin K, cathepsin S, cathepsin L, cathepsin B, respectively. L-873724 also exhibits an IC_{50} of 0.5 nM for rabbit cathepsin K.

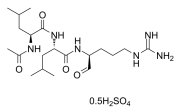


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Leupeptin hemisulfate

Cat. No.: HY-18234A

Leupeptin hemisulfate is a membrane-permeable **thiol protease** inhibitor that inhibits **Cathepsin B**, **Cathepsin H** and **Cathepsin L**, and also impairs amphisome-lysosome fusion. Leupeptin hemisulfate also exhibits anti-inflammatory effect.

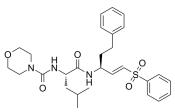


Purity: 98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

LHVS

Cat. No.: HY-128971

LHVS is a potent, non-selective **cysteine protease** inhibitor. LHVS effectively blocks T. gondii microneme protein secretion (IC_{50}=10 μM), gliding motility, and cell invasion.

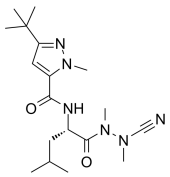


Purity: 99.87%
Clinical Data:
Size: 10 mM × 1 mL, 1 mg, 5 mg

LmCPB-IN-1

Cat. No.: HY-146649

LmCPB-IN-1 (compound 35) is a potent and reversible covalent **Leishmania mexicana cysteine protease B (LmCPB)** inhibitor with a pK_i of 9.7.

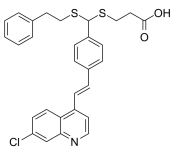


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

LV-320

Cat. No.: HY-112711

LV-320 is a potent and uncompetitive **ATG4B** inhibitor with an IC_{50} of 24.5μM and a K_d of 16μM. LV-320 inhibits ATG4B enzymatic activity, blocks **autophagic** flux in cells, and is stable, non-toxic and active in vivo.

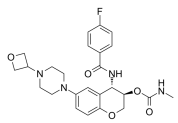


Purity: ≥95.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

LY 3000328

Cat. No.: HY-15533

LY 3000328 is a potent and selective **Cathepsin S (Cat S)** inhibitor with IC_{50}s of 7.7 and 1.67 nM for hCat S and mCat S, respectively.

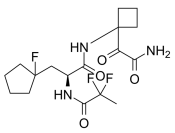


Purity: 98.12%
Clinical Data: Phase 1
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

MIV-247

Cat. No.: HY-112583

MIV-247 is a selective **cathepsin S** inhibitor with K_is of 2.1, 4.2 and 7.5 nM for human, mouse and cynomolgus monkey cathepsin S, respectively.

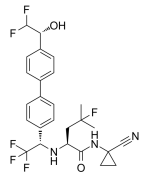


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

MK-0674

Cat. No.: HY-10290

MK-0674 is a potent, orally bioavailable and selective **cathepsin K** inhibitor, with an IC_{50} of 0.4 nM, shows 1156, 1465, 11857 and 243 fold selectivity over Cat B, Cat F, Cat L and Cat S.

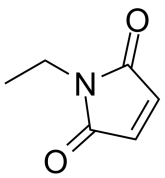


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

N-Ethylmaleimide (NEM)

Cat. No.: HY-D0843

N-Ethylmaleimide (NEM), a reagent that alkylates free sulfhydryl groups, is a **cysteine protease** inhibitor. N-ethylmaleimide specific inhibits phosphate transport in mitochondria. N-Ethylmaleimide is also a **deubiquitinating enzyme** inhibitor.

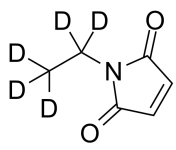


Purity: 99.67%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 10 mg

N-Ethylmaleimide-d5 (NEM-d5)

Cat. No.: HY-D0843S

N-Ethylmaleimide-d5 (NEM-d5) is the deuterium labeled N-Ethylmaleimide. N-Ethylmaleimide (NEM), a reagent that alkylates free sulfhydryl groups, is a **cysteine protease** inhibitor. N-ethylmaleimide specific inhibits phosphate transport in mitochondria.

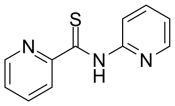


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

NSC 185058

Cat. No.: HY-125169

NSC 185058 is an inhibitor of **ATG4B**, a major **cysteine protease**. Inhibition of ATG4B using NSC 185058 markedly attenuates autophagic activity.



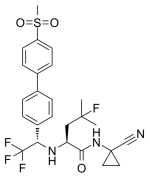
Purity: 99.52%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Odanacatib

(MK-0822)

Cat. No.: HY-10042

Odanacatib (MK-0822) is a potent and selective inhibitor of **cathepsin K**, with an IC_{50} of 0.2 nM for human cathepsin K.

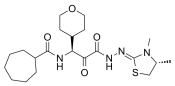


Purity: 99.80%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

ONO-5334

Cat. No.: HY-108044

ONO-5334 is a potent, selective and orally active **cathepsin K** inhibitor with K_i values of 0.10 nM, 0.049 nM and 0.85 nM for human, rabbit and rat cathepsin K, respectively.



Purity: 99.83%
Clinical Data: No Development Reported
Size: 5 mg

Papain

Cat. No.: HY-P1645

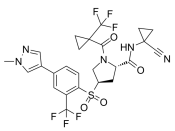
Papain is a cysteine protease of the peptidase C1 family, which is used in food, pharmaceutical, textile, and cosmetic industries.

Purity: >98%
Clinical Data: Phase 2
Size: 100 mg

Petesicatib

Cat. No.: HY-109069

Petesicatib is a **cathepsin S** inhibitor, used in research of immune diseases.



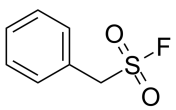
Purity: 99.71%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

PMSF

(Phenylmethylsulfonyl fluoride; Benzylsulfonyl fluoride)

Cat. No.: HY-B0496

PMSF is an irreversible **serine/cysteine protease** inhibitor commonly used in the preparation of cell lysates.



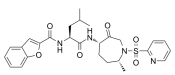
Purity: 99.49%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg, 500 mg

Relacatib

(SB-462795)

Cat. No.: HY-10294

Relacatib (SB-462795) is a novel, potent, and orally active inhibitor of human **cathepsins K, L, and V** with K_i values of 41 pM, 68 pM, and 53 pM, respectively.

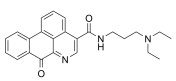


Purity: >98%
Clinical Data: Phase 1
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

S130

Cat. No.: HY-112818

S130 is a high affinity, selective inhibitor of **ATG4B** (a major cysteine protease) with an IC_{50} of 3.24 μM. S130 suppresses autophagy flux.

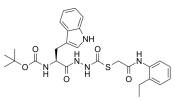


Purity: 99.31%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

SID 26681509

Cat. No.: HY-103353

SID 26681509 is a potent, reversible, competitive, and selective inhibitor of **human cathepsin L** with an IC_{50} of 56 nM.

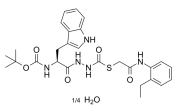


Purity: 98.26%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg

SID 26681509 quarterhydrate

Cat. No.: HY-103353A

SID 26681509 quarterhydrate is a potent, reversible, competitive, and selective inhibitor of **human cathepsin L** with an IC_{50} of 56 nM.



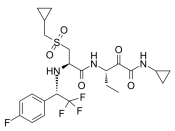
Purity: ≥97.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg

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

VBY-825

Cat. No.: HY-15958

VBY-825 is a novel, reversible cathepsin inhibitor with high potency against cathepsins B, L, S and V.



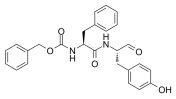
Purity: 99.84%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Z-FY-CHO

(Z-Phe-Tyr-CHO)

Cat. No.: HY-128140

Z-FY-CHO (Z-Phe-Tyr-CHO) is a potent and specific **cathepsin L (CTSL)** inhibitor.

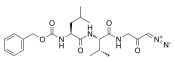


Purity: 96.18%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Z-LVG-CHN2

Cat. No.: HY-108137

Z-LVG-CHN2 is a cell-permeable and irreversible inhibitor of **cysteine proteinase**. Z-LVG-CHN2 is a tripeptide derivative and mimics part of the human cysteine proteinase-binding center.

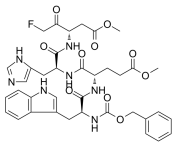


Purity: 99.88%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

Z-WEHD-FMK

Cat. No.: HY-P0111

Z-WEHD-FMK is a potent, cell-permeable and irreversible **caspase-1/5** inhibitor. Z-WEHD-FMK also exhibits a robust inhibitory effect on **cathepsin B** activity (IC_{50}=6 μM). Z-WEHD-FMK can be used to investigate cells for evidence of apoptosis.



Purity: 98.64%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg