MicroRNA

miRNA

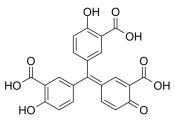
MicroRNAs (miRNAs) are a naturally occurring class of small (approximately 22 nucleotides long) non-coding RNAs that regulate post-transcriptional gene expression to control cellular processes, development, cell differentiation, and homeostasis. MicroRNAs are essential for embryo, cell, and tissue development, regulating cell differentiation, proliferation, and apoptosis, hence their importance in human reproduction. Meanwhile, abnormal expression or function of miRNAs are found to be closely associated with the occurrence or development of various human diseases, including cancers. In light of their significant roles in physiology and pathology, miRNAs are emerging as novel biomolecular targets for chemical-biological studies, including regulation and detection.

Multiple steps are involved in the generation of miRNAs. Most miRNAs are produced by the canonical biogenesis pathway, which involves transcription by RNA polymerase II to make a primary transcript (pri-miRNA) and cleavage by the microprocessor complex to yield a hairpin precursor miRNA (pre-miRNA) in the nucleus. The pre-miRNA is then exported into the cytoplasm, where cleavage by the enzyme Dicer creates a double-stranded RNA duplex. Only a single strand from the double-stranded RNA duplex forms the mature miRNA and is incorporated into the RNA-induced silencing complex (RISC), which guides the binding of Argonaute (AGO) proteins in the RISC to the 3′untranslated region (UTR) to either repress protein translation or promote mRNA degradation. In addition to canonical miRNA biogenesis pathways, non-canonical microprocessor-independent or Dicer-independent miRNA biogenesis pathways also exist. Despite miRNAs being mostly involved in the down-regulation of gene expression, there are reports of miRNAs promoting gene expression. In addition, relationships between miRNAs and their targets are not always one-to-one in a specific cell type. In fact, a single miRNA may regulate many mRNA targets, and conversely, a single mRNA target also can be regulated by many miRNAs.

Aurintricarboxylic acid

Cat. No.: HY-122575

Aurintricarboxylic acid is a nanomolar-potency, allosteric antagonist with selectivity towards αβ-methylene-ATP-sensitive **P2X1Rs** and **P2X3Rs**, with **IC_{50}**s of 8.6 nM and 72.9 nM for rP2X1R and rP2X3R, respectively.



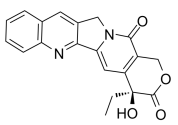
Purity: >98%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg

Camptothecin

(Campathecin; (S)-(+)-Camptothecin; CPT)

Cat. No.: HY-16560

Camptothecin (CPT), a kind of alkaloid, is a **DNA topoisomerase I (Topo I) inhibitor** with an **IC_{50}** of 679 nM.



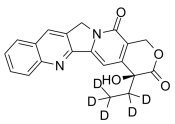
Purity: 99.69%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg

Camptothecin-d5

(Campathecin-d5; (S)-(+)-Camptothecin-d5; CPT-d5)

Cat. No.: HY-16560S

Camptothecin-d5 (Campathecin-d5) is the deuterium labeled Camptothecin. Camptothecin (CPT), a kind of alkaloid, is a **DNA topoisomerase I (Topo I) inhibitor** with an **IC_{50}** of 679 nM.

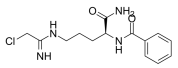


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Cl-amidine

Cat. No.: HY-100574

Cl-amidine is an orally active **peptidylarginine deminase (PAD)** inhibitor, with **IC_{50}** values of 0.8 μM, 6.2 μM and 5.9 μM for PAD1, PAD3, and PAD4, respectively. Cl-amidine induces apoptosis in cancer cells.

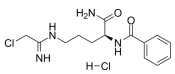


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Cl-amidine hydrochloride

Cat. No.: HY-100574A

Cl-amidine hydrochloride is an orally active **peptidylarginine deminase (PAD)** inhibitor, with **IC_{50}** values of 0.8 μM, 6.2 μM and 5.9 μM for PAD1, PAD3, and PAD4, respectively. Cl-amidine hydrochloride induces apoptosis in cancer cells.

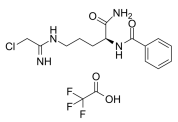


Purity: 99.10%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Cl-amidine TFA

Cat. No.: HY-100574B

Cl-amidine TFA is an orally active **peptidylarginine deminase (PAD)** inhibitor, with **IC_{50}** values of 0.8 μM, 6.2 μM and 5.9 μM for PAD1, PAD3, and PAD4, respectively. Cl-amidine TFA induces apoptosis in cancer cells.



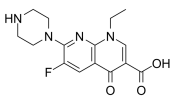
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Enoxacin

(AT 2266; CI 919)

Cat. No.: HY-B0268

Enoxacin (AT 2266), a fluoroquinolone, interferes with **DNA replication** and inhibits bacterial DNA gyrase (IC_{50}=126 μg/ml) and topoisomerase IV (IC_{50}=26.5 μg/ml).



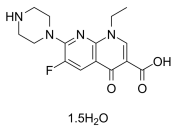
Purity: 98.67%
Clinical Data: Launched
Size: 1 mg, 5 mg

Enoxacin hydrate

(Enoxacin sesquihydrate; AT-2266 hydrate; CI-919 hydrate)

Cat. No.: HY-B0268A

Enoxacin hydrate (Enoxacin sesquihydrate), a fluoroquinolone, interferes with **DNA replication** and inhibits bacterial DNA gyrase (IC_{50}=126 μg/ml) and topoisomerase IV (IC_{50}=26.5 μg/ml).

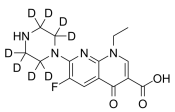


Purity: 98.15%
Clinical Data: Launched
Size: 100 mg, 500 mg

Enoxacin-d8

Cat. No.: HY-B0268S

Enoxacin-d8 (AT 2266-d8) is the deuterium labeled Enoxacin. Enoxacin (AT 2266), a fluoroquinolone, interferes with **DNA replication** and inhibits bacterial DNA gyrase (IC_{50}=126 μg/ml) and topoisomerase IV (IC_{50}=26.5 μg/ml).

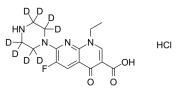


Purity: >98%
Clinical Data:
Size: 2.5 mg, 25 mg

Enoxacin-d8 hydrochloride

Cat. No.: HY-B0268S1

Enoxacin-d8 (hydrochloride) is deuterium labeled Enoxacin. Enoxacin (AT 2266), a fluoroquinolone, interferes with DNA replication and inhibits bacterial DNA gyrase (IC50=126 μg/ml) and topoisomerase IV (IC50=26.5 μg/ml).

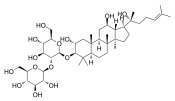


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Gypenoside LI

Cat. No.: HY-N8207

Gypenoside LI, a gypenoside monomer, possesses anti-tumor activity. Gypenoside LI induces cell apoptosis, cell cycle and migration.



Purity: 98.29%
Clinical Data: No Development Reported
Size: 5 mg

Lademirsen

(SAR339375; RG-012)

Cat. No.: HY-132599

Lademirsen (SAR339375; RG-012) is a highly specific antisense oligonucleotide (ASO) targeting **miR-21**. Lademirsen has the potential for Alport nephropathy research.

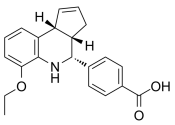
Lademirsen

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

LIN28 inhibitor LI71

Cat. No.: HY-123905

LIN28 inhibitor LI71 is a potent and cell-permeable **LIN28** inhibitor, which abolishes LIN28-mediated oligouridylation with an IC_{50} of 7 uM.

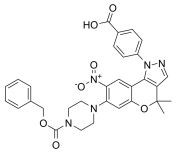


Purity: 98.10%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

Lin28-let-7a antagonist 1

Cat. No.: HY-100692

Lin28-let-7a antagonist 1 shows a clear antagonistic effect against the **Lin28-let-7a interaction** with an IC_{50} of 4.03 μM for Lin28A-let-7a-1 interaction.

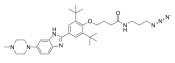


Purity: 99.62%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

MIR96-IN-1

Cat. No.: HY-15843

MIR96-IN-1 targets the Drosha site in the **miR-96 (miRNA-96, microRNA-96)** hairpin precursor, inhibiting its biogenesis, derepressing downstream targets, and triggering **apoptosis** in breast cancer cells.



Purity: 95.82%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg

Miravirsen

(SPC-3649)

Cat. No.: HY-132598

Miravirsen (SPC-3649), a β-d-oxy-locked nucleic acid-modified phosphorothioate antisense oligonucleotide, inhibit the biogenesis of **miR-122**. Miravirsen (SPC-3649) is used in the study for HCV infections.

Miravirsen

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

MTL-CEBPA

Cat. No.: HY-132607

MTL-CEPBA is a small activating RNA targeting for upregulation of **C/EBPα**. MTL-CEPBA has anti-inflammatory and anti-cancer activity.

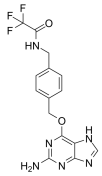
MTL-CEBPA

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

PIN1 inhibitor API-1

Cat. No.: HY-116716

PIN1 inhibitor API-1 is a specific **Pin1** (peptidyl-prolyl cis-trans isomerase NIMA-interacting 1) inhibitor (API-1) with an IC_{50} of 72.3 nM.

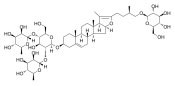


Purity: 97.03%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Pseudoprotodioscin

Cat. No.: HY-N0686

Pseudoprotodioscin, a furostanoside, inhibits SREBP1/2 and microRNA 33a/b levels and reduces the gene expression regarding the synthesis of cholesterol and triglycerides.



Purity: 98.76%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 20 mg

Remlarsen

(MRG-201)

Cat. No.: HY-132602

Remlarsen (MRG-201), a miR-29b mimic, acts a **miR-29b** agonist. Remlarsen has the potential for preventiong formation of a fibrotic scar or cutaneous fibrosis.

Remlarsen

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

RG-101

Cat. No.: HY-132600

RG-101 is a hepatocyte targeted N-acetylgalactosamine conjugated oligonucleotide that antagonises **miR-122**. miR-122 is an important host factor for hepatitis C virus (HCV) replication.

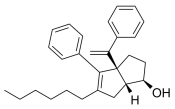
RG-101

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

RJW100

Cat. No.: HY-131445

RJW100 is a potent **liver receptor homolog 1 (LRH-1, NR5A2)** and **steroidogenic factor-1 (SF-1, NR5A1)** agonist with **pEC_{50}**s of 6.6 and 7.5, respectively. RJW100 also causes strong activation of the **miR-200c (miRNA-200c, microRNA-200c) promoter**.



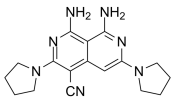
Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

SID 3712249

(MiR-544 Inhibitor 1)

Cat. No.: HY-19731

SID 3712249 (MiR-544 Inhibitor 1) is an inhibitor of the biogenesis of microRNA-544 (miR-544). Target: MiR-544 MiR-544 represses expression of mTOR, promoting tumor cell survival in a hypoxic environment.



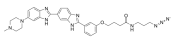
Purity: 98.35%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Targapremir-210

(TGP-210)

Cat. No.: HY-15861

Targapremir-210 (TGP-210) is a potent and selective **miR-210** (miRNA-210, microRNA-210) inhibitor. Targapremir-210 inhibits pre-miR-210 processing with high binding affinity (K_d~200 nM).

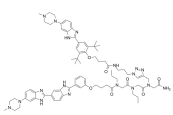


Purity: 98.02%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Targaprimir-96

Cat. No.: HY-135276

Targaprimir-96 is a potent inhibitor of **microRNA-96 (miR-96) processing**. Targaprimir-96 selectively modulates miR-96 production in cancer cells and triggers **apoptosis**. Targaprimir-96 binds primary miR-96 (pri-miR-96) with low nanomolar affinity.

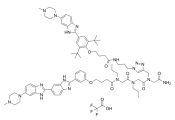


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Targaprimir-96 TFA

Cat. No.: HY-135276A

Targaprimir-96 TFA is a potent inhibitor of **microRNA-96 (miR-96) processing**. Targaprimir-96 TFA selectively modulates miR-96 production in cancer cells and triggers **apoptosis**. Targaprimir-96 TFA binds primary miR-96 (pri-miR-96) with low nanomolar affinity.



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