



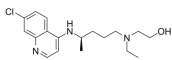
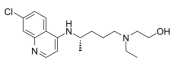
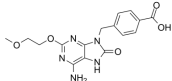
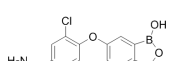
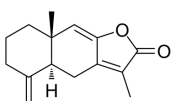
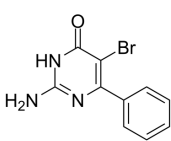
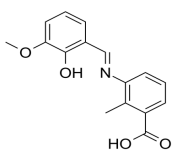
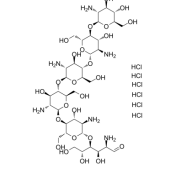
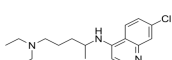
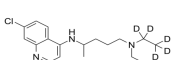
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Inhibitors, Agonists, Screening Libraries

# Toll-like Receptor (TLR)

Toll-like receptors (TLRs) are a class of proteins that play a key role in the innate immune system. They are single, membrane-spanning, non-catalytic receptors usually expressed in sentinel cells such as macrophages and dendritic cells, that recognize structurally conserved molecules derived from microbes. Once these microbes have breached physical barriers such as the skin or intestinal tract mucosa, they are recognized by TLRs, which activate immune cell responses. The TLRs include TLR1, TLR2, TLR3, TLR4, TLR5, TLR6, TLR7, TLR8, TLR9, TLR10, TLR11, TLR12, and TLR13. Toll-Like Receptors (TLRs) play a critical role in the early innate immune response to invading pathogens by sensing microorganism and are involved in sensing endogenous danger signals. TLRs are evolutionarily conserved receptors are homologues of the *Drosophila* Toll protein, discovered to be important for defense against microbial infection. TLRs recognize highly conserved structural motifs known as pathogen-associated microbial patterns (PAMPs), which are exclusively expressed by microbial pathogens.

## Toll-like Receptor (TLR) Inhibitors, Agonists, Antagonists, Activators & Modulators

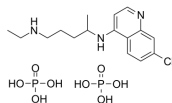
<p><b>(R)-Hydroxychloroquine</b> (R)-HCQ</p> <p>Cat. No.: HY-B1370B</p> <p>(R)-Hydroxychloroquine is the enantiomer of Hydroxychloroquine. Hydroxychloroquine is a synthetic antimalarial drug which can also inhibit Toll-like receptor 7/9 (TLR7/9) signaling. Hydroxychloroquine is efficiently inhibits SARS-CoV-2 infection in vitro.</p> <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> Launched <b>Size:</b> 1 mg, 5 mg</p> 	<p><b>(S)-Hydroxychloroquine</b> (S)-HCQ</p> <p>Cat. No.: HY-B1370A</p> <p>(S)-Hydroxychloroquine ((S)-HCQ) is the enantiomer of Hydroxychloroquine. Hydroxychloroquine, a synthetic antimalarial drug, inhibits Toll-like receptor 7/9 (TLR7/9) signaling, and shows efficiently inhibits SARS-CoV-2 infection in vitro.</p> <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> Launched <b>Size:</b> 1 mg, 5 mg</p> 
<p><b>1V209</b> (TLR7 agonist T7)</p> <p>Cat. No.: HY-115400</p> <p>1V209 (TLR7 agonist T7) is a <b>Toll-like receptor 7 (TLR7)</b> agonist and has anti-tumor effects. 1V209 can be conjugated with various polysaccharides to improve its water solubility, and enhance its efficacy, and maintain low toxicity.</p> <p><b>Purity:</b> 99.52% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 	<p><b>AN-3485</b></p> <p>Cat. No.: HY-18325</p> <p>AN-3485 is a benzoxaborole analog, <b>Toll-Like Receptor (TLR)</b> inhibitor with <math>IC_{50}</math> values ranging from 18 to 580 nM.</p> <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 5 mg, 10 mg, 50 mg, 100 mg, 250 mg</p> 
<p><b>Atractylenolide I</b></p> <p>Cat. No.: HY-N0201</p> <p>Atractylenolide I is a sesquiterpene derived from the rhizome of <i>Atractylodes macrocephala</i>, possesses diverse bioactivities, such as neuroprotective, anti-allergic, anti-inflammatory and anticancer properties.</p> <p><b>Purity:</b> 99.08% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg</p> 	<p><b>Bropirimine</b></p> <p>Cat. No.: HY-W008634</p> <p>Bropirimine is a synthetic agonist for toll-like receptor 7 (TLR7). Bropirimine inhibits differentiation of osteoclast precursor cells into osteoclasts via TLR7-mediated production of IFN-<math>\beta</math>.</p> <p><b>Purity:</b> 99.84% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 10 mg, 50 mg</p> 
<p><b>C29</b></p> <p>Cat. No.: HY-100461</p> <p>C29 is a <b>Toll-like receptor 2 (TLR2)</b> inhibitor. C29 blocks hTLR2/1 and hTLR2/6 signaling with <math>IC_{50}</math>s of 19.7 and 37.6 <math>\mu</math>M, respectively.</p> <p><b>Purity:</b> &gt;98.0% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg</p> 	<p><b>Chitohexaose hexahydrochloride</b></p> <p>Cat. No.: HY-N7697C</p> <p>Chitohexaose hexahydrochloride is a chitosan oligosaccharide with anti-inflammatory effect. Chitohexaose hexahydrochloride binds to the active sites of <b>TLR4</b> and inhibits LPS induced inflammation.</p> <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 1 mg</p> 
<p><b>Chloroquine</b></p> <p>Cat. No.: HY-17589A</p> <p>Chloroquine is an <b>antimalarial</b> and anti-inflammatory agent widely used to treat malaria and rheumatoid arthritis. Chloroquine is an <b>autophagy</b> and <b>toll-like receptors (TLRs)</b> inhibitor.</p> <p><b>Purity:</b> 99.50% <b>Clinical Data:</b> Launched <b>Size:</b> 10 mM × 1 mL, 100 mg, 200 mg, 500 mg</p> 	<p><b>Chloroquine D5</b></p> <p>Cat. No.: HY-17589AS</p> <p>Chloroquine D5 is deuterium labeled Chloroquine. Chloroquine is an <b>antimalarial</b> and anti-inflammatory agent widely used to treat malaria and rheumatoid arthritis. Chloroquine is an <b>autophagy</b> and <b>toll-like receptors (TLRs)</b> inhibitor.</p> <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 1 mg, 5 mg</p> 

<p><b>Chloroquine dihydrochloride</b></p> <p>Cat. No.: HY-17589B</p>	<p><b>Chloroquine phosphate</b></p> <p>Cat. No.: HY-17589</p>
<p>Chloroquine dihydrochloride is an <b>antimalarial</b> and anti-inflammatory agent widely used to treat malaria and rheumatoid arthritis. Chloroquine dihydrochloride is an <b>autophagy</b> and <b>toll-like receptors (TLRs)</b> inhibitor.</p> <p><b>Purity:</b> &gt;98%</p> <p><b>Clinical Data:</b> Launched</p> <p><b>Size:</b> 1 mg, 5 mg</p>	<p>Chloroquine phosphate is an <b>antimalarial</b> and anti-inflammatory agent widely used to treat malaria and rheumatoid arthritis. Chloroquine phosphate is an <b>autophagy</b> and <b>toll-like receptors (TLRs)</b> inhibitor.</p> <p><b>Purity:</b> 99.89%</p> <p><b>Clinical Data:</b> Launched</p> <p><b>Size:</b> 10 mM × 1 mL, 100 mg, 200 mg, 500 mg</p>
<p><b>CL075 (3M002)</b></p> <p>Cat. No.: HY-117066</p>	<p><b>CU-CPT-8m (TLR8-specific antagonist)</b></p> <p>Cat. No.: HY-112050</p>
<p>CL075 (3M002) is a selective <b>TLR8</b> agonist with immunomodulating properties. CL075 triggers a MyD88-dependent signaling pathway to elicit production of inflammatory cytokines and type I interferons (IFNs) via activation of NF-κB and IRF7, respectively.</p> <p><b>Purity:</b> &gt;98%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg</p>	<p>CU-CPT-8m is a specific <b>TLR8</b> antagonist, with an <math>IC_{50}</math> of 67 nM.</p> <p><b>Purity:</b> 99.98%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</p>
<p><b>CU-CPT-9a</b></p> <p>Cat. No.: HY-112667</p>	<p><b>CU-CPT17e</b></p> <p>Cat. No.: HY-101929</p>
<p>CU-CPT-9a is a specific <b>TLR8</b> antagonist, with an <math>IC_{50}</math> of 0.5 nM.</p> <p><b>Purity:</b> 99.66%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</p>	<p>CU-CPT17e is a potent multi-Toll-like receptor (TLR) agonist that activates <b>TLR3, TLR8, and TLR9</b>.</p> <p><b>Purity:</b> 98.02%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p>
<p><b>CU-CPT22</b></p> <p>Cat. No.: HY-108471</p>	<p><b>CU-CPT9b</b></p> <p>Cat. No.: HY-112051</p>
<p>CU-CPT22 is a potent protein complex of <b>toll-like receptor 1 and 2 (TLR1/2)</b> inhibitor, and competes with the synthetic triacylated lipoprotein (<math>Pam_3CSK_4</math>) binding to TLR1/2 with a <math>K_d</math> of 0.41 μM. CU-CPT22 blocks <math>Pam_3CSK_4</math>-induced TLR1/2 activation with an <math>IC_{50}</math> of 0.58 μM.</p> <p><b>Purity:</b> &gt;99.0%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg</p>	<p>CU-CPT9b is a specific <b>TLR8</b> antagonist, with an <math>IC_{50}</math> of 0.7 nM. CU-CPT9b shows high binding affinity towards TLR8 with a <math>K_d</math> of 21 nM.</p> <p><b>Purity:</b> 99.05%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</p>
<p><b>CU-T12-9</b></p> <p>Cat. No.: HY-110353</p>	<p><b>Desethyl chloroquine</b></p> <p>Cat. No.: HY-135811</p>
<p>CU-T12-9 is a specific <b>TLR1/2</b> agonist with <math>EC_{50}</math> of 52.9 nM in HEK-Blue hTLR2 SEAP assay. CU-T12-9 activates both the innate and the adaptive immune systems. CU-T12-9 selectively activates the TLR1/2 heterodimer, not TLR2/6.</p> <p><b>Purity:</b> 99.94%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg</p>	<p>Desethyl chloroquine is a major desethyl metabolite of Chloroquine. Chloroquine diphosphate is an inhibitor of <b>autophagy</b> and <b>toll-like receptors (TLRs)</b>. Desethyl chloroquine possesses antiparasitic activity.</p> <p><b>Purity:</b> &gt;98%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg, 5 mg</p>

### Desethyl chloroquine diphosphate

Cat. No.: HY-135811A

Desethyl chloroquine diphosphate is a major desethyl metabolite of Chloroquine. Chloroquine diphosphate is an inhibitor of **autophagy** and **toll-like receptors (TLRs)**. Desethyl chloroquine diphosphate possesses antiparasitic activity.

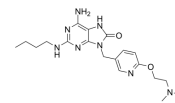


**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 10 mg, 50 mg

### DSR-6434

Cat. No.: HY-110120

DSR-6434 is a potent and selective **Toll-like receptor 7 (TLR7)** agonist, with  $EC_{50}$ s of 7.2 nM and 4.6 nM for human and mice **TLR7**, respectively. DSR-6434 has a strong antitumor effect.



**Purity:** 99.49%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### FSL-1 TFA

Cat. No.: HY-P2036A

FSL-1 TFA, a bacterial-derived toll-like receptor 2/6 (**TLR2/6**) agonist, enhances resistance to experimental HSV-2 infection. FSL-1 TFA induces **MMP-9** production through **TLR2** and **NF-κB/AP-1** signaling pathways in monocytic THP-1 cells.

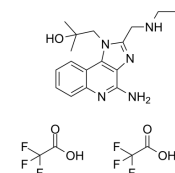
S12, 3-Bis(phenylthio)propyl) GDPβH-RMSF (TFA salt)

**Purity:** 99.58%  
**Clinical Data:** No Development Reported  
**Size:** 100 μg

### Gardiquimod diTFA

Cat. No.: HY-103697A

Gardiquimod diTFA, an imidazoquinoline analog, is a **TLR7/8** agonist. Gardiquimod diTFA could inhibit HIV-1 infection of macrophages and activated peripheral blood mononuclear cells (PBMCs). Gardiquimod diTFA specifically activates TLR7 when used at concentrations below 10 μM.

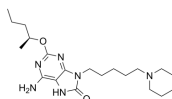


**Purity:** 99.77%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### GSK2245035

Cat. No.: HY-118250

GSK2245035 is a highly potent and selective intranasal **Toll-Like receptor 7 (TLR7)** agonist with preferential Type-1 interferon (IFN)-stimulating properties. GSK2245035 has  $pEC_{50}$ s of 9.3 and 6.5 for IFNα and IFNβ.

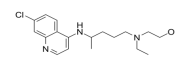


**Purity:** 99.79%  
**Clinical Data:** Phase 2  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

### Hydroxychloroquine

Cat. No.: HY-W031727

Hydroxychloroquine is a synthetic **antimalarial** agent which can also inhibit **Toll-like receptor 7/9 (TLR7/9)** signaling. Hydroxychloroquine is efficiently inhibits **SARS-CoV-2** infection in vitro.



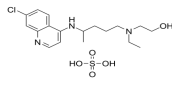
**Purity:** >98%  
**Clinical Data:** Launched  
**Size:** 1 mg, 5 mg

### Hydroxychloroquine sulfate

(HCQ sulfate)

Cat. No.: HY-B1370

Hydroxychloroquine sulfate (HCQ sulfate) is a synthetic **antimalarial** agent which can also inhibit **Toll-like receptor 7/9 (TLR7/9)** signaling. Hydroxychloroquine sulfate is efficiently inhibits **SARS-CoV-2** infection in vitro.

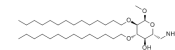


**Purity:** 99.99%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 50 mg

### IAXO-102

Cat. No.: HY-125171

IAXO-102 is a **TLR4** antagonist which negatively regulates TLR4 signalling. It inhibits MAPK and p65 NF-κB phosphorylation and expression of TLR4 dependent proinflammatory protein. IAXO-102 also prevents experimental abdominal aortic aneurysm development.



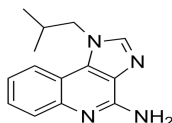
**Purity:** >98.0%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

### Imiquimod

(R 837)

Cat. No.: HY-B0180

Imiquimod (R 837) is a selective **toll like receptor 7 (TLR7)** agonist acting as an immune response modifier. Imiquimod exhibits antiviral and antitumor effects in vivo. Imiquimod can be used for the research of external genital, perianal warts, cancer and COVID 19.



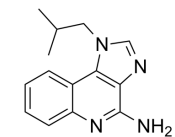
**Purity:** 99.96%  
**Clinical Data:** Launched  
**Size:** 100 mg, 200 mg, 500 mg

### Imiquimod hydrochloride

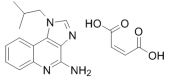
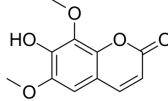
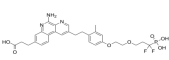
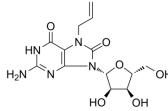
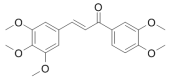
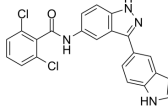
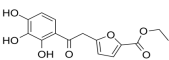
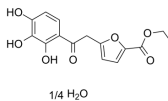
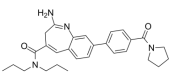
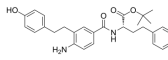
(R 837 hydrochloride)

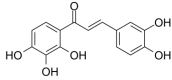
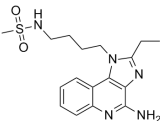
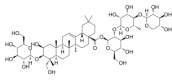
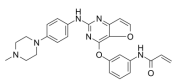
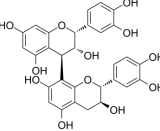
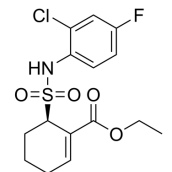
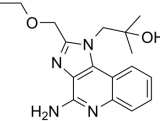
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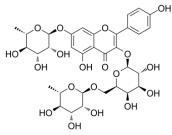
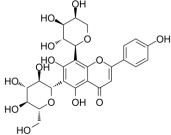
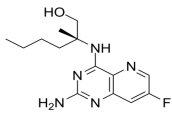
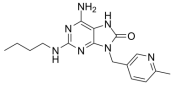
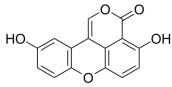
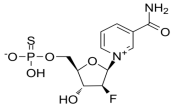
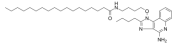
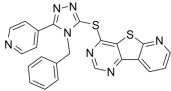
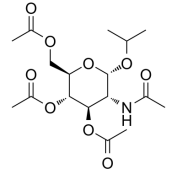
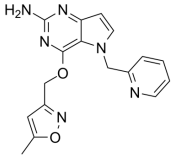
Imiquimod hydrochloride (R 837 hydrochloride) is a selective **toll like receptor 7 (TLR7)** agonist acting as an immune response modifier. Imiquimod hydrochloride exhibits antiviral and antitumor effects in vivo.



**Purity:** 99.77%  
**Clinical Data:** Launched  
**Size:** 100 mg, 200 mg, 500 mg

<p><b>Imiquimod maleate</b> (R 837 maleate)</p>	<p><b>Cat. No.:</b> HY-B0180B</p>	<p>Imiquimod maleate (R 837 maleate) is a selective <b>toll like receptor 7 (TLR7)</b> agonist acting as an immune response modifier. Imiquimod maleate exhibits antiviral and antitumor effects in vivo.</p>  <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> Launched <b>Size:</b> 1 mg, 5 mg</p>	<p><b>Cat. No.:</b> HY-N0774</p> <p>Isofraxidin, a coumarin component from <i>Acanthopanax senticosus</i>, inhibits <b>MMP-7</b> expression and cell invasion of human hepatoma cells. Isofraxidin inhibits the phosphorylation of <b>ERK1/2</b> in hepatoma cells.</p>  <p><b>Purity:</b> 98.14% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 5 mg, 10 mg, 20 mg</p>
<p><b>LHC-165</b></p>	<p><b>Cat. No.:</b> HY-111786</p>	<p>LHC-165 is a <b>TLR7</b> agonist. Has potential to treat solid tumors.</p>  <p><b>Purity:</b> 98.17% <b>Clinical Data:</b> Phase 1 <b>Size:</b> 1 mg, 5 mg, 10 mg, 50 mg</p>	<p><b>Cat. No.:</b> HY-108472</p> <p>Loxoribine (7-Allyl-8-oxoguanosine) is a guanosine analog with anti-viral and anti-tumor activities. Loxoribine is an orally bioavailable and selective <b>Toll-like receptor (TLR) 7</b> agonist.</p>  <p><b>Purity:</b> &gt;97.0% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg</p>
<p><b>MD2-IN-1</b></p>	<p><b>Cat. No.:</b> HY-103483</p>	<p>MD2-IN-1 is an inhibitor of <b>Myeloid differentiation protein 2 (MD2)</b> with a <b>KD</b> of 189 <math>\mu</math>M for the recombinant human MD2 (<b>rhMD2</b>).</p>  <p><b>Purity:</b> 99.85% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg</p>	<p><b>Cat. No.:</b> HY-128598</p> <p>MD2-TLR4-IN-1 (compound 22m) is an inhibitor of myeloid differentiation protein 2/toll-like receptor 4 (MD2-TLR4) complex, inhibiting lipopolysaccharides (LPS)-induced expression of tumor necrosis factor alpha (TNF-<math>\alpha</math>) and interleukin-6 (IL-6) in macrophages with...</p>  <p><b>Purity:</b> 99.69% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p>
<p><b>MMG-11</b></p>	<p><b>Cat. No.:</b> HY-112146</p>	<p>MMG-11 is a potent and selective human <b>TLR2</b> antagonist with low cytotoxicity. MMG-11 inhibits both TLR2/1 and TLR2/6 signaling with <b>IC<sub>50</sub>s</b> of 1.7 <math>\mu</math>M for Pam<sub>3</sub>CSK<sub>4</sub>-induced hTLR2/1 and 5.7 <math>\mu</math>M for Pam<sub>2</sub>CSK<sub>4</sub>-induced hTLR2/6 responses.</p>  <p><b>Purity:</b> &gt;98% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mg, 50 mg, 100 mg</p>	<p><b>Cat. No.:</b> HY-112146A</p> <p>MMG-11 quarterhydrate is a potent and selective human <b>TLR2</b> antagonist with low cytotoxicity. MMG-11 quarterhydrate inhibits both TLR2/1 and TLR2/6 signaling with <b>IC<sub>50</sub>s</b> of 1.7 <math>\mu</math>M for Pam<sub>3</sub>CSK<sub>4</sub>-induced hTLR2/1 and 5.7 <math>\mu</math>M for Pam<sub>2</sub>CSK<sub>4</sub>-induced hTLR2/6 responses.</p>  <p>1/4 H<sub>2</sub>O</p> <p><b>Purity:</b> &gt;97.0% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mg</p>
<p><b>Motolimod</b> (VTX-2337; VTX-378)</p>	<p><b>Cat. No.:</b> HY-13773</p>	<p>Motolimod (VTX-2337;VTX-378) is a selective <b>Toll-like receptor 8 (TLR8)</b> agonist, with an <b>EC<sub>50</sub></b> of approximately 100 nM.</p>  <p><b>Purity:</b> 98.58% <b>Clinical Data:</b> Phase 2 <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg</p>	<p><b>Cat. No.:</b> HY-U00435</p> <p>Neoseptin 3 is a Toll-like receptor 4/myeloid differentiation factor 2 (<b>mTLR4/MD-2</b>) agonist with an <b>EC<sub>50</sub></b> of 18.5 <math>\mu</math>M.</p>  <p><b>Purity:</b> &gt;98.0% <b>Clinical Data:</b> No Development Reported <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg</p>

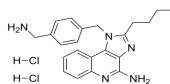
<p><b>Okanin</b></p> <p>Cat. No.: HY-N6673</p>	<p><b>Pam3CSK4</b> (Pam3Cys-Ser-(Lys)4)</p> <p>Cat. No.: HY-P1180</p>
<p>Okanin, effective constituent of the flower tea <i>Coreopsis tinctoria</i>, attenuates LPS-induced microglial activation through inhibition of the TLR4/NF-<math>\kappa</math>B signaling pathways.</p>  <p><b>Purity:</b> &gt;98%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg, 5 mg</p>	<p>Pam3CSK4 is a toll-like receptor 1/2 (TLR1/2) agonist with an EC<sub>50</sub> of 0.47 ng/mL for human TLR1/2.</p> <p><b>Pam3C-SKKKK</b></p> <p><b>Purity:</b> &gt;98%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg</p>
<p><b>Pam3CSK4 TFA</b> (Pam3Cys-Ser-(Lys)4 TFA)</p> <p>Cat. No.: HY-P1180A</p>	<p><b>PF-4878691</b> (3M-852A)</p> <p>Cat. No.: HY-100176</p>
<p>Pam3CSK4 TFA is a toll-like receptor 1/2 (TLR1/2) agonist with an EC<sub>50</sub> of 0.47 ng/mL for human TLR1/2.</p> <p><b>Pam3C-SKKKK (TFA salt)</b></p> <p><b>Purity:</b> &gt;98%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg, 5 mg</p>	<p>PF-4878691 (3M-852A) is a potent, orally active, and selective <b>Toll-like receptor 7 (TLR7)</b> agonist modelled to dissociate its antiviral and inflammatory activities.</p>  <p><b>Purity:</b> 99.89%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg, 5 mg, 10 mg</p>
<p><b>Polygalasaponin F</b></p> <p>Cat. No.: HY-N0392</p>	<p><b>Polyinosinic-polycytidylic acid sodium</b> (Poly(I:C) sodium)</p> <p>Cat. No.: HY-135748</p>
<p>Polygalasaponin F, an oleanane-type triterpenoid saponin extracted from <i>Polygala japonica</i>, decreases the release of the inflammatory cytokine tumor necrosis factor <math>\alpha</math> (TNF<math>\alpha</math>).</p>  <p><b>Purity:</b> &gt;99.0%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 5 mg, 10 mg, 50 mg</p>	<p>Polyinosinic-polycytidylic acid sodium (Poly(I:C) sodium) is a synthetic analog of double-stranded RNA and an agonist of <b>toll-like receptor 3 (TLR3)</b> and <b>retinoic acid inducible gene I (RIG-I)-like receptors (RIG-I and MDA5)</b>.</p> <p><b>Polyinosinic-polycytidylic acid (sodium)</b></p> <p><b>Purity:</b> &gt;99.0%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 10 mg, 25 mg</p>
<p><b>Poseltinib</b> (HM71224; LY3337641)</p> <p>Cat. No.: HY-109010</p>	<p><b>Procyanidin B1</b></p> <p>Cat. No.: HY-N0795</p>
<p>Poseltinib, an orally active, selective and irreversible <b>Bruton's tyrosine kinase (BTK)</b> inhibitor (IC<sub>50</sub> = 1.95 nM), with 0.3, 2.3 and 2.4-fold selectivity for BTK over BMX, TEC and TXK, respectively.</p>  <p><b>Purity:</b> 98.01%</p> <p><b>Clinical Data:</b> Phase 2</p> <p><b>Size:</b> 5 mg, 10 mg, 50 mg</p>	<p>Procyanidin B1 is a polyphenolic flavonoid isolated from commonly eaten fruits, binds to <b>TLR4/MD-2</b> complex, and has anti-inflammatory activity.</p>  <p><b>Purity:</b> 99.59%</p> <p><b>Clinical Data:</b> No Development Reported</p> <p><b>Size:</b> 1 mg, 5 mg, 10 mg</p>
<p><b>Resatorvid</b> (TAK-242; CLI-095)</p> <p>Cat. No.: HY-11109</p>	<p><b>Resiquimod</b> (R848; S28463)</p> <p>Cat. No.: HY-13740</p>
<p>Resatorvid (TAK-242) is a selective <b>Toll-like receptor 4 (TLR4)</b> inhibitor. Resatorvid inhibits NO, TNF-R and IL-6 production with IC<sub>50</sub>s of 1.8 nM, 1.9 nM and 1.3 nM, respectively. Resatorvid downregulates expression of TLR4 downstream signalling molecules MyD88 and TRIF.</p>  <p><b>Purity:</b> 99.95%</p> <p><b>Clinical Data:</b> Phase 3</p> <p><b>Size:</b> 10 mM <math>\times</math> 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</p>	<p>Resiquimod is a Toll-like receptor 7 and 8 (<b>TLR7/TLR8</b>) agonist that induces the upregulation of cytokines such as TNF-<math>\alpha</math>, IL-6 and IFN-<math>\alpha</math>.</p>  <p><b>Purity:</b> 99.95%</p> <p><b>Clinical Data:</b> Phase 2</p> <p><b>Size:</b> 10 mM <math>\times</math> 1 mL, 10 mg, 25 mg, 50 mg, 100 mg</p>

<p><b>Robinin</b></p> <p>Cat. No.: HY-N1346</p> <p>Robinin is present in flavonoid fraction of <i>Vigna unguiculata</i> leaf. Robinin inhibits upregulated expression of <b>TLR2</b> and <b>TLR4</b>. Robinin ameliorates oxidized low density lipoprotein (Ox-LDL) induced inflammatory insult through <b>TLR4/NF-κB</b> pathway.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 	<p><b>Schaftoside</b></p> <p>Cat. No.: HY-N0703</p> <p>Schaftoside is a flavonoid found in a variety of Chinese herbal medicines, such as <i>Eleusine indica</i>. Schaftoside inhibits the expression of <b>TLR4</b> and <b>Myd88</b>. Schaftoside also decreases <b>Drp1</b> expression and phosphorylation, and reduces mitochondrial fission.</p> <p><b>Purity:</b> 99.88%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 20 mg</p> 
<p><b>Selgantolimod</b> (GS-9688)</p> <p>Cat. No.: HY-109137</p> <p>Selgantolimod (GS-9688) is an orally active, potent and selective <b>toll-like receptor 8 (TLR8)</b> agonist for the treatment of <b>hepatitis B virus (HBV)</b> and human immunodeficiency virus (HIV) infection.</p> <p><b>Purity:</b> 99.17%  <b>Clinical Data:</b> Phase 2  <b>Size:</b> 5 mg, 10 mg, 50 mg, 100 mg</p> 	<p><b>SM-276001</b></p> <p>Cat. No.: HY-123291</p> <p>SM-276001 is a potent selective <b>TLR7</b> agonist that can induce antitumor immune responses. SM-276001 is an orally active <b>interferon (IFN)</b> inducer.</p> <p><b>Purity:</b> 99.71%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</p> 
<p><b>Sparstolonin B</b></p> <p>Cat. No.: HY-116213</p> <p>Sparstolonin B acts as a selective <b>TLR2</b> and <b>TLR4</b> antagonist and selectively blocks <b>TLR2-</b> and <b>TLR4-mediated</b> inflammatory signaling. Sparstolonin B has anti-HIV and anticancer activities.</p> <p><b>Purity:</b> &gt;99.0%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg</p> 	<p><b>Sulfo-ara-F-NMN</b> (CZ-48)</p> <p>Cat. No.: HY-129522</p> <p>Sulfo-ara-F-NMN (CZ-48) is a mimetic of nicotinamide mononucleotide (NMN). Sulfo-ara-F-NMN acts selectively, activating <b>SARM1</b> but inhibiting <b>CD38</b> (<math>IC_{50}</math> around 10 μM). Sulfo-ara-F-NMN induces intracellular cyclic ADP-ribose (cADPR) production.</p> <p><b>Purity:</b> 99.36%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg, 50 mg, 100 mg</p> 
<p><b>Telratolimod</b> (MEDI9197; 3M-052)</p> <p>Cat. No.: HY-109104</p> <p>Telratolimod (MEDI9197) is a potent toll like receptors 7/8 (<b>TLR7/8</b>) agonist, with antitumor activity.</p> <p><b>Purity:</b> 99.04%  <b>Clinical Data:</b> Phase 1  <b>Size:</b> 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 	<p><b>TH1020</b></p> <p>Cat. No.: HY-116961</p> <p>TH1020 is a potent and selective <b>toll-like receptor 5 (TLR5)/flagellin complex</b> antagonist with an <math>IC_{50}</math> of 0.85 μM. TH1020 inhibits flagellin-induced <b>TLR5</b> signaling. TH1020 is inactive against <b>TLR2, TLR3, TLR4, TLR7</b> and <b>TLR8</b>.</p> <p><b>Purity:</b> 99.69%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 
<p><b>TLR4-IN-C34</b></p> <p>Cat. No.: HY-107575</p> <p>TLR4-IN-C34 is an orally active <b>TLR4</b> inhibitor and reduces systemic inflammation in models of endotoxemia and necrotizing enterocolitis.</p> <p><b>Purity:</b> &gt;98.0%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 	<p><b>TLR7 agonist 2</b></p> <p>Cat. No.: HY-103039</p> <p>TLR7 agonist 2 is a potent and selective <b>Toll-like Receptor 7 (TLR7)</b> agonist with a <math>LEC</math> of 0.4 μM.</p> <p><b>Purity:</b> 99.25%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg</p> 

### TLR7/8 agonist 1 dihydrochloride

Cat. No.: HY-103698A

TLR7/8 agonist 1 dihydrochloride is a toll-like receptor TLR7/TLR8 dual-agonistic imidazoquinoline.



**Purity:** 98.47%

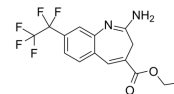
**Clinical Data:** No Development Reported

**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### Toll-like receptor modulator

Cat. No.: HY-10018

Toll-like receptor modulator is a modulator of TLR7/8, which modulates immune function.



**Purity:** 98.97%

**Clinical Data:** No Development Reported

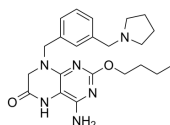
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

### Vesatolimod

(GS-9620)

Cat. No.: HY-15601

Vesatolimod (GS-9620) is a potent, selective and orally active agonist of Toll-Like Receptor (TLR7) with an EC<sub>50</sub> of 291 nM.



**Purity:** 99.90%

**Clinical Data:** Phase 2

**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg