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 & Modulators

### Atractylenolide I

**Atractylenolide I** is a natural compound extracted from largehead atracylodes rhizome; induce apoptosis and bring about cytotoxicity of human promyeloleukemic HL-60 cells, TLR4-antagonizing agent.

- **Purity:** 99.71%
- **Clinical Data:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg

### Chloroquine (diphosphate)

Chloroquine (diphosphate) is an antimalarial drug and autophagy/lysosome inhibitor, inhibiting Toll-like receptor (TLR) signalling.

- **Purity:** 99.93%
- **Clinical Data:** 10mM x 1mL in Water, 100 mg

### GS-9620

GS-9620 is a potent and selective orally active agonist of Toll-Like Receptor (TLR)7.

- **Purity:** 99.56%
- **Clinical Data:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg

### Imiquimod

Imiquimod is an immune response modifier that acts as a toll-like receptor 7 agonist.

- **Purity:** 99.57%
- **Clinical Data:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg

### Imiquimod (hydrochloride)

Imiquimod hydrochloride is an immune response modifier that acts as a toll-like receptor 7 agonist and is commonly used topically to treat warts on the skin of the genital and anal areas.

- **Purity:** >98%
- **Clinical Data:** 100 mg, 200 mg, 500 mg

### Imiquimod (maleate)

Imiquimod maleate is an immune response modifier that acts as a toll-like receptor 7 agonist and is commonly used topically to treat warts on the skin of the genital and anal areas.

- **Purity:** >98%
- **Clinical Data:** 100 mg, 200 mg, 500 mg

### Leonurine

Leonurine, a natural alkaloid extracted from Herba leonuri, has been proved to have anti-inflammatory effect.

- **Purity:** 99.45%
- **Clinical Data:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### Leonurine (hydrochloride)

Leonurine (hydrochloride), a major alkaloid compound extracted from Leonurus japonicas Houtt. (Labiatae), is considered to have antitumor roles.

- **Purity:** 99.32%
- **Clinical Data:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### Motolimod

Motolimod is a selective Toll-like receptor (TLR) 8 agonist, with EC50 of about 100 nM.

- **Purity:** 98.83%
- **Clinical Data:** Phase 1, Phase 2, 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg

### Procyandin B1

Procyandin B1, inhibits infection by vesicular stomatitis virus and HCV pseudotype virus in Huh-7 cells, with IC50 of 28μM and 15μM, respectively.

- **Purity:** 99.92%
- **Clinical Data:** 10mM x 1mL in DMSO, 1 mg, 5 mg, 10 mg
| **Resiquimod**  
| (R-848; S 28463; R848; S28463; R 848; S-28463)  
| **Cat. No.: HY-13740**  
| **Bioactivity:** Resiquimod is a Toll-like receptor 7 and 8 (TLR7/TLR8) agonist that induces the levels of cytokines such as TNF-α, IL-6 and IFN-α.  
| **Purity:** 99.85%  
| **Clinical Data:**  
| **Size:** 10mM x 1mL in DMSO, 10 mg, 25 mg, 50 mg, 100 mg  

| **Toll-like receptor modulator**  
| (Ethyl 2-amino-8-(perfluoroethyl)-3H-benzo[b]azepine-4-carboxylate)  
| **Cat. No.: HY-10018**  
| **Bioactivity:** A Toll-like receptor modulator.  
| **Purity:** > 98%  
| **Clinical Data:**  
| **Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg  

| **TAK-242**  
| (Resatorvid; TAK242; TAK 242)  
| **Cat. No.: HY-11109**  
| **Bioactivity:** TAK-242 is a novel small molecule TLR4 signaling inhibitor, selectively inhibits the TLR4-mediated production of cytokines and NO.  
| **Purity:** 99.95%  
| **Clinical Data:** Phase 3  
| **Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg  

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