RIP kinase

Receptor-interacting protein kinases; RIPK

Receptor interacting protein 2 (RIP2), a serine/threonine kinase, is an adaptor molecule of NOD1 and NOD2, and genetic variation in this receptor is known to be associated with the severity of allergic asthma in children.

Receptor interacting protein kinase 2 (RIPK2) is critical for NOD-mediated NF-κB activation and cytokine production. WEHI-345, a selective RIPK2 kinase inhibitor, which delays RIPK2 ubiquitylation and NF-κB activation downstream of NOD engagement.

Receptor interacting protein kinase 3 (RIPK3) is a cytosolic master regulator of necroptosis. RIPK3 has an active serine/threonine kinase domain at the N-terminus, and a unique protein-protein interaction domain called the RIP homotypic interaction motif (RHIM) at the C-terminus. Both kinase activity and RHIM are indispensable for necroptosis. RIPK3 interacts with other RHIM-containing proteins such as RIPK1, Toll/interleukin-1 (IL-1) receptor domain-containing adaptor protein inducing TRIF or DAI. RIPK3 induces necroptosis, a type of regulated necrosis, through its kinase domain and RHIM.
RIP kinase Inhibitors & Modulators

**cRIPGBM**  
**Cat. No.: HY-125466**

**Bioactivity:** cRIPGBM, a proapoptotic derivative of RIPGBM, a cell type-selective inducer of apoptosis in GBM cancer stem cells (CSCs) by binding to receptor-interacting protein kinase 2 (RIPK2), with an EC\textsubscript{50} of 68 nM in GBM-1 cells. \[1\]

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 5 mg, 10 mg

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**GNE684**  
**Cat. No.: HY-128585**

**Bioactivity:** GNE684 is a potent inhibitor of protein 1 (RIP1), with mean K\textsuperscript{app} values of 21 nM, 189 nM and 691 nM for human mouse and rat RIP1, respectively. \[1\]

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 100 mg, 250 mg, 500 mg

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**GSK’481**  
(GSK481)  
**Cat. No.: HY-100131**

**Bioactivity:** GSK’481 can inhibit RIP1 WT S166 phosphorylation in human vs mouse plasmids overexpressed in HEK293T cells.

**Purity:** 98.0%

**Clinical Data:** No Development Reported

**Size:** 10mM x 1mL in DMSO, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

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**GSK-843**  
**Cat. No.: HY-125402**

**Bioactivity:** GSK-843 is a receptor-interacting protein kinase 3 (RIP3 or RIPK3) inhibitor, which binds RIP3 kinase domain with an IC\textsubscript{50} of 8.6 nM, and inhibits kinase activity with an IC\textsubscript{50} of 6.5 nM. \[1\]

**Purity:** 98.0%

**Clinical Data:** No Development Reported

**Size:** 10mM x 1mL in DMSO, 5 mg

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**GSK2593074A**  
(GSK’074)  
**Cat. No.: HY-122909**

**Bioactivity:** GSK2593074A (GSK’074) is a necroptosis inhibitor with dual targeting ability to both RIP1 and RIP3. \[1\]

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 500 mg, 250 mg

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**GSK2982772**  
**Cat. No.: HY-101760**

**Bioactivity:** GSK2982772 is an orally, potent and ATP competitive RIP1 kinase inhibitor with IC\textsubscript{50} values of 16 nM and 20 nM for human and monkey RIP1, respectively.

**Purity:** 98.0%

**Clinical Data:** Phase 2

**Size:** 10mM x 1mL in DMSO, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg

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**GSK3145095**  
**Cat. No.: HY-111946**

**Bioactivity:** GSK3145095 is a RIP1 kinase inhibitor with an IC\textsubscript{50} of 6.3 nM. \[1\]

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 100 mg, 250 mg, 500 mg

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**GSK57**  
**Cat. No.: HY-114492**

**Bioactivity:** GSK57 is an orally available kinase inhibitor with IC\textsubscript{50} values of 7 nM, 15 nM and 40 nM for the human, mouse and rat RIP1, respectively. \[1\]

**Purity:** >98%

**Clinical Data:** No Development Reported

**Size:** 250 mg, 500 mg

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**GSK583**  
**Cat. No.: HY-100339**

**Bioactivity:** GSK583 is a highly potent and selective inhibitor of RIP2 Kinase, with IC\textsubscript{50} of 5 nM.

**Purity:** 98.64%

**Clinical Data:** No Development Reported

**Size:** 10mM x 1mL in DMSO, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg
Bioactivity: GSK840 (GSK’840) is a receptor-interacting protein kinase 3 (RIP3 or RIPK3) inhibitor, which binds RIP3 kinase domain with an IC$_{50}$ of 0.9 nM, and inhibits kinase activity with an IC$_{50}$ of 0.3 nM [1].

Purity: >98%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg

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Bioactivity: GSK963 is a chiral, highly potent and selective inhibitor of RIP1 kinase, with an IC$_{50}$ of 29 nM. GSK963 is a selective and potent inhibitor of necroptosis in murine and human cells in vitro [1].

Purity: >98%

Clinical Data: No Development Reported

Size: 5 mg, 10 mg, 25 mg

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Bioactivity: HS-1371 is a potent and ATP-competitive receptor-interacting protein kinase 3 (RIP3) inhibitor with an IC$_{50}$ of 20.8 nM [1].

Purity: 98.49%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

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Bioactivity: Nec-4, a tricyclic derivative, is a potent receptor interacting protein 1 (RIP1) inhibitor, with an IC$_{50}$ of 2.6 μM. Nec-4 is a selective and potent inhibitor of necroptosis in murine and human cells in vitro [1].

Purity: >98%

Clinical Data: No Development Reported

Size: 250 mg, 500 mg

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Bioactivity: Necrostatin 2 is a potent necroptosis inhibitor. EC$_{50}$ for inhibition of necroptosis in FADD-deficient Jurkat T cells treated with TNF-α is 0.05 μM. Necrostatin 2 is also a RIPK1 inhibitor.

Purity: 99.97%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg

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Bioactivity: Necrostatin 2 racemate is a potent necroptosis inhibitor, acts as a RIPK1 inhibitor lacking the IDO-targeting effect. Target: RIPK1. Necrostatin 2 racemate is a potent in vitro necroptosis inhibitors (exemplified by 1, EC50-0.05 μM) that also were efficacious in an animal model of ischemic stroke. Many...

Purity: 99.10%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 10 mg, 50 mg

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Bioactivity: Necrostatin 2 S enantiomer is the S enantiomer of Necrostatin 2. Necrostatin 2 is a potent necroptosis inhibitor, acts as a RIPK1 inhibitor lacking the IDO-targeting effect. Target: RIPK1. Necrostatin 2 racemate is a potent in vitro necroptosis inhibitors (exemplified by 1, EC50-0.05 μM) that also were efficacious in an animal model of ischemic stroke. Many...

Purity: 99.20%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 10 mg, 50 mg

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Bioactivity: Necrostatin-1 (Nec-1) is a potent, selective and cell-permeable necroptosis inhibitor with an EC$_{50}$ of 490 nM in Jurkat cells. It acts by inhibiting the death domain kinase RIP (RIP1) in the necroptosis pathway.

Purity: 99.95%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg

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Bioactivity: RIP2 kinase inhibitor 1 is a receptor interacting protein-2 (RIP2) kinase inhibitor extracted from patent WO/2014043446 A1, compound example 1.

Purity: 98.11%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg

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Bioactivity: RIP2 kinase inhibitor 2 is a receptor interacting protein-2 (RIP2) kinase inhibitor extracted from patent WO/2014043437 A1, compound example 9.

Purity: 99.95%

Clinical Data: No Development Reported

Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg
### RIP2 Kinase Inhibitor 3
**Cat. No.: HY-112907**

**Bioactivity:** RIP2 Kinase Inhibitor 3 is a highly potent and selective inhibitor of receptor interacting protein-2 (RIP2) Kinase with an IC₅₀ of 1 nM [1].

**Purity:** > 98%

**Clinical Data:** No Development Reported

**Size:** 250 mg, 500 mg

![Structural formula](image)

### RIP-56
**Cat. No.: HY-101032**

**Bioactivity:** RIP-56 is a highly potent, selective, and metabolically stable inhibitor of receptor-interacting protein 1 (RIP1) with an IC₅₀ of 13 nM.

**Purity:** 99.86%

**Clinical Data:** No Development Reported

**Size:** 10 mM x 1 mL in DMSO,
10 mg, 50 mg, 100 mg, 200 mg

![Structural formula](image)

### RIPK1-IN-7
**Cat. No.: HY-119933**

**Bioactivity:** RIPK1-IN-7 is a potent and selective receptor-interacting protein kinase 1 (RIPK1) inhibitor with a Kᵰ of 4 nM and an enzymatic IC₅₀ of 11 nM. RIPK1-IN-7 exhibits excellent antimitastasis activity in the experimental B16 melanoma l...

**Purity:** > 98%

**Clinical Data:** No Development Reported

**Size:** 10 mM x 1 mL in DMSO,
5 mg, 10 mg, 50 mg, 100 mg

![Structural formula](image)

### WEHI-345
**Cat. No.: HY-18937**

**Bioactivity:** WEHI-345 is a potent and selective inhibitor of RIPK2, with IC₅₀ of 0.13 μM. IC₅₀ value: 0.13 μM Target: RIPK2 in vitro: WEHI-345 is a selective RIPK2 kinase inhibitor, which delays RIPK2 ubiquitylation and NF-κB activation downstream of NOD engagement. WEHI-345 is an ATP analogue and was therefore...

**Purity:** 98.56%

**Clinical Data:** No Development Reported

**Size:** 10 mM x 1 mL in DMSO,
5 mg, 10 mg, 50 mg, 100 mg

![Structural formula](image)