Guanylate Cyclase

Guanylate cyclase (guanylyl cyclase, GC), which catalyzes the formation of cGMP from GTP, exists in both the soluble and particulate fractions of cells. Guanylyl cyclases signal via the production of the second messenger cGMP.

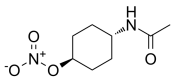
The GC family consists of particulate GC (pGC) and a nitric oxide-activated soluble GC (sGC). Seven pGC isoforms have yet been found (pGC-A to pGC-G). pGCs are activated by binding of peptide ligands to their extracellular domains. sGC is a receptor for endogenous and exogenous nitric oxide and is activated several-fold upon its binding, constituting a core enzyme in the nitric oxide signal transduction pathway. cGMP generated by sGC is an important second messenger that regulates activity of several enzymes triggering such important physiologic reactions as vasodilation, smooth muscle relaxation and platelet aggregation.

Guanylate Cyclase Inhibitors, Agonists & Activators

(4-Acetamidocyclohexyl) nitrate

(BM121307) Cat. No.: HY-100295

(4-Acetamidocyclohexyl) nitrate (BM121307) is a **guanylate cyclase** activator.

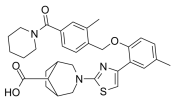


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

(Rac)-BI 703704

Cat. No.: HY-117962

(Rac)-BI 703704 is a potent **soluble guanylyl cyclase (sGC)** activator. (Rac)-BI 703704 reduces progression of renal damage in the ZSF1 rat, and highlight the potential of sGC activation as an effective therapy for diabetic nephropathy.

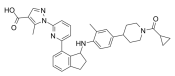


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

(Rac)-MGV354

Cat. No.: HY-117917

(Rac)-MGV354 is the racemate of MGV354. MGV354 is a soluble guanylate cyclase (sGC) activator with EC_{50}s of <0.5 nM, and 5 nM in CHO and GTM-3 E cells, respectively.

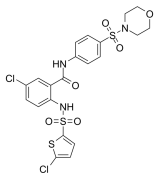


Purity: 99.66%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg

Ataciguat

(HMR-1766) Cat. No.: HY-17500

Ataciguat (HMR-1766) is a nitric oxide-independent **soluble guanylate cyclase (sGC)** activator. Ataciguat is able to activate the ferric heme-iron redox form of sGC that stimulate the production of cyclic GMP (cGMP). Ataciguat exhibits vasodilator effects.

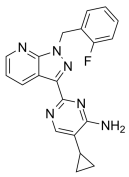


Purity: 99.81%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

BAY 41-2272

Cat. No.: HY-12376

BAY 41-2272 is a soluble guanylate cyclases (sGC) activator.

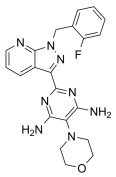


Purity: 99.93%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

BAY 41-8543

Cat. No.: HY-W062836

BAY 41-8543 is an orally active, nitric oxide (NO)-independent stimulator of **soluble guanylyl cyclase (sGC)**. BAY 41-8543 has vasodilator activity in the pulmonary and systemic vascular beds in the rat.

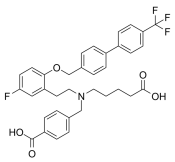


Purity: 99.95%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

BAY 60-2770

Cat. No.: HY-113926

BAY 60-2770 is a potent, selective, and orally active **soluble guanylyl cyclase (sGC)** activator. BAY 60-2770 increases the activity of sGC in a nitric oxide-independent manner. BAY 60-2770 shows antifibrotic effect.

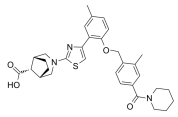


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

BI 703704

Cat. No.: HY-117962A

BI 703704 is a potent **soluble guanylate cyclase (sGC)** activator. BI 703704 inhibits the progression of diabetic nephropathy in the ZSF1 rat.

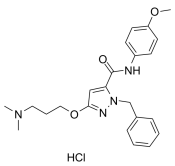


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CFM 1571 hydrochloride

Cat. No.: HY-107546

CFM 1571 hydrochloride is the stimulator of the nitric oxide receptor, soluble guanylate cyclase (**sGC**) with an EC_{50} and IC_{50} of 5.49 μM and 2.84 μM, respectively. Soluble guanylate cyclase (sGC) is a key signal-transduction enzyme activated by nitric oxide (NO).

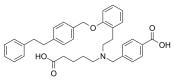


Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Cinaciguat

(BAY 58-2667) Cat. No.: HY-14181

Cinaciguat is an activator of **guanylate cyclase (sGC)**, and used for acute decompensated heart failure.

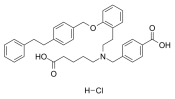


Purity: 99.20%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg

Cinaciguat hydrochloride

(BAY 58-2667 hydrochloride) Cat. No.: HY-14181A

Cinaciguat hydrochloride is a potent soluble **guanylate cyclase** (**GC**) activator with **EC_{50}** of 15 nM in platelets.

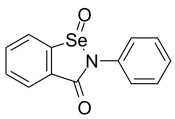


Purity: 99.52%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg

Ebselen oxide

Cat. No.: HY-114548

Ebselen oxide, the selenone analogue of Ebselen, covalently modifies diguanylate cyclase (DGC) to inhibit c-di-GMP-receptor interactions and reduces DGC activity. Ebselen oxide also inhibits alginate production (IC_{50}=14 μM) by Pseudomonas aeruginosa.

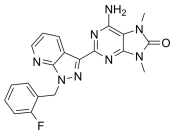


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Guanylate cyclase-IN-1

Cat. No.: HY-W021162

Guanylate cyclase-IN-1 (Example 46) is a **guanylate cyclase** inhibitor that can be used for cardiovascular diseases research.



Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Guanylin(human)

Cat. No.: HY-P1179

Guanylin(human), a 15-amino acid peptide, is an endogenous intestinal guanylate cyclase activator.

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

Guanylin(human) TFA

Cat. No.: HY-P1179A

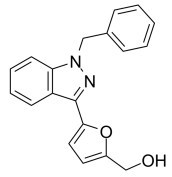
Guanylin(human) TFA, a 15-amino acid peptide, is an endogenous intestinal guanylate cyclase activator.

Purity: 97.45%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Lificiguat

(YC-1) Cat. No.: HY-14927

Lificiguat binds to the β subunit of **soluble guanylyl cyclase**(**sGC**) with **K_d** of 0.6-1.1 μM in the presence of CO.

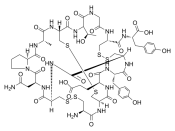


Purity: 99.48%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg, 200 mg

Linaclotide

Cat. No.: HY-17584

Linaclotide is a potent and selective **guanylate cyclase C** agonist; developed for the treatment of constipation-predominant irritable bowel syndrome (IBS-C) and chronic constipation.

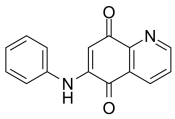


Purity: 98.44%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg

LY83583

Cat. No.: HY-W013386

LY83583 is a cell-permeable and competitive inhibitor of **soluble guanylate cyclase (sGC)** with an **IC_{50}** value of 2 μM.

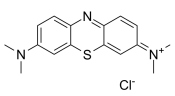


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Methylene Blue

(Basic Blue 9; CI-52015; Methylthioninium chloride) Cat. No.: HY-14536

Methylene blue (Basic Blue 9) is a **guanylyl cyclase (sGC)**, **monoamine oxidase A (MAO-A)** and **NO synthase (NOS)** inhibitor. Methylene blue is a vasopressor and is often used as a dye in several medical procedures.

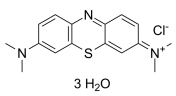


Purity: ≥98.0%
Clinical Data: Launched
Size: 100 mg, 500 mg

Methylene blue trihydrate

(C.I. Basic Blue 9 trihydrate) Cat. No.: HY-B1359

Methylene blue trihydrate (C.I. Basic Blue 9 trihydrate) is a **guanylyl cyclase (sGC)**, **monoamine oxidase A (MAO-A)** and **NO synthase (NOS)** inhibitor. Methylene blue trihydrate is a vasopressor and is often used as a dye in several medical procedures.

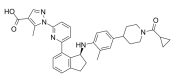


Purity: ≥97.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg

MGV354

Cat. No.: HY-111516

MGV354 is a **soluble guanylate cyclase** (**sGC**) activator with **EC_{50}**s of <0.5 nM, and 5 nM in CHO and GTM-3 E cells, respectively.



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

MM 419447

Cat. No.: HY-P3282

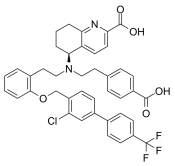
MM 419447, a linaclotide metabolite, is a **guanylate cyclase-C** agonist. MM 419447 has the potential for the research of the irritable bowel syndrome with constipation (IBS-C).

Purity: 99.40%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

Mosliciguat

Cat. No.: HY-137446

Mosliciguat is a guanylate cyclase activator.



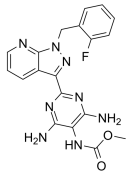
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Nelociguat

(BAY60-4552)

Cat. No.: HY-78237

Nelociguat (BAY60-4552) is a nitric oxide sensitive soluble guanylate cyclase stimulator.

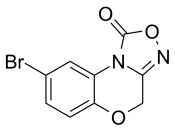


Purity: 99.73%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg, 200 mg

NS-2028

Cat. No.: HY-12379

NS-2028 is a highly selective soluble Guanylyl Cyclase (sGC) inhibitor with **IC_{50}** values of 30 nM and 200 nM for basal and NO-stimulated enzyme activity.

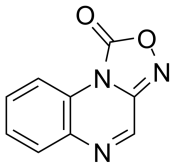


Purity: 99.91%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

ODQ

Cat. No.: HY-101255

ODQ is a potent and selective **soluble guanylyl cyclase** (sGC, nitric oxide-activated enzyme) inhibitor. ODQ enhances the pro-apoptotic effects of Cisplatin in human mesothelioma cells.



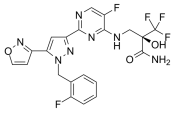
Purity: 99.52%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 25 mg, 50 mg

Olinciguat

(IW-1701)

Cat. No.: HY-109066

Olinciguat (IW-1701) is an oral **guanylate cyclase** (sGC) stimulator with concentration-dependent stimulation of sGC in purified rat and human enzyme assays and a whole cell assay.



Purity: 98.44%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

Plecanatide

Cat. No.: HY-108741

Plecanatide, an analogue of Uroguanylin, is an orally active **guanylate cyclase-C (GC-C) receptor** agonist. Plecanatide activates GC-C receptors to stimulate cGMP synthesis with an **EC_{50}** of 190 nM in T84 cells assay.

Purity: 98.90%
Clinical Data: Launched
Size: 5 mg, 10 mg

Plecanatide acetate

Cat. No.: HY-108741A

Plecanatide acetate, an analogue of Uroguanylin, is an orally active **guanylate cyclase-C (GC-C) receptor** agonist. Plecanatide acetate activates GC-C receptors to stimulate cGMP synthesis with an **EC_{50}** of 190 nM in T84 cells assay.

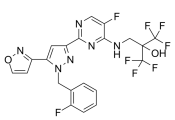
Purity: 99.26%
Clinical Data: Launched
Size: 5 mg, 10 mg

Praliciguat

(IW-1973)

Cat. No.: HY-109039

Praliciguat (IW-1973) is a potent and orally active **soluble guanylate cyclase** stimulator, enhances NO signaling, acts as a vasodilator. Praliciguat (IW-1973) stimulates sGC in HEK-293 cells with an **EC_{50}** of 197 nM.



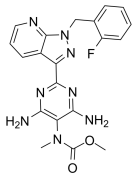
Purity: 98.79%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

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

Riociguat

(BAY 632521) Cat. No.: HY-14779

Riociguat is an oral stimulator of soluble guanylate cyclase (**sGC**) used in the treatment of pulmonary hypertension.

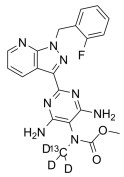


Purity: 99.58%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg, 200 mg

Riociguat-13C-d3

(BAY 632521-13C-d3) Cat. No.: HY-14779S2

Riociguat-13C-d3 (BAY 632521-13C-d3) is the 13C- and deuterium labeled Riociguat. Riociguat is an oral stimulator of soluble guanylate cyclase (**sGC**) used in the treatment of pulmonary hypertension.

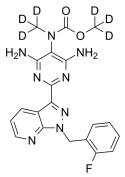


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Riociguat-d6

Cat. No.: HY-14779S1

Riociguat-d6 (BAY 632521-d6) is the deuterium labeled Riociguat. Riociguat is an oral stimulator of soluble guanylate cyclase (**sGC**) used in the treatment of pulmonary hypertension.

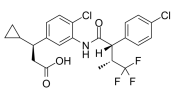


Purity: >98%
Clinical Data:
Size: 1 mg, 10 mg

Runcaciguat

Cat. No.: HY-109136

Runcaciguat is an orally active stimulator of **soluble guanylate cyclase**, and is used in the research of cardiovascular and renal diseases combined with selective partial adenosine A1 receptor agonists.

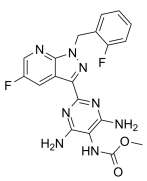


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Vericiguat

(BAY1021189) Cat. No.: HY-16774

Vericiguat (BAY1021189) is a potent, orally available and soluble **guanylate cyclase** stimulator.

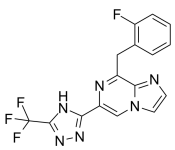


Purity: 99.11%
Clinical Data: Launched
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

Zagociguat

Cat. No.: HY-145607

Zagociguat is the stimulator of soluble guanylate cyclase. Zagociguat increases nitric oxide (NO) signaling leading to an increase in cyclic guanosine monophosphate production. Zagociguat has the potential for the research of noncentral nervous system (CNS) disorders.



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