

Product Datasheet

Runcaciguat

Catalog No. **BP-01884** · CAS **1402936-61-1** · Form **free base** · Physical state **solid** · Color **White to off-white** · Version **1.0** · Revision **2026-09-07**

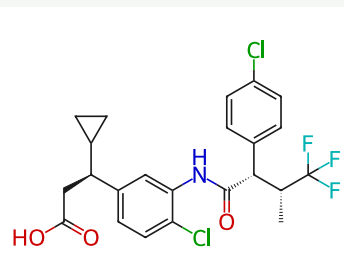
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Target Guanylate Cyclase	Research area Cardiovascular Disease; Metabolic Disease
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Molecular formula **C₂₃H₂₂Cl₂F₃NO₃**

Molecular weight **488.3270**

STRUCTURE



DESCRIPTION

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.

BIOLOGICAL ACTIVITY

In Vitro

Runcaciguat (100 pM-10 μM; 10 min) activates wild-type soluble guanylate cyclase (sGC, EC₅₀=789 nM) in HEK293 cells, but inactive against the β1H105A/F mutant, confirming that its activation is dependent on the histidine 105 residue of the β1 subunit.

In Vivo

Runcaciguat (1-10 mg/kg; oral gavage or mixed feed; 1-2 times a day; 2-12 weeks) significantly reduces proteinuria, improves renal function markers (such as Cyst-C, KIM-1), alleviates renal pathological damage (such as glomerular sclerosis, tubular degeneration) in chronic kidney disease (CKD) models such as ANG-SD rats, RenTG rats, ZDF rats and ZSF1 rats, and improves the survival rate of RenTG rats.

SOLUBILITY

Soluble in DMSO 125 mg/mL

REFERENCES

- [1]. Wittrien T, et al. Runcaciguat activates soluble guanylyl cyclase via the histidine essential for heme binding and nitric oxide activation. *Biochem Pharmacol.* 2025 Feb;232:116739.
- [2]. Bénaudeau A, et al. Runcaciguat, a novel soluble guanylate cyclase activator, shows renoprotection in hypertensive, diabetic, and metabolic preclinical models of chronic kidney disease. *Naunyn Schmiedeberg Arch*

Pharmacol. 2021 Dec;394(12):2363-2379.

[3]. Kraehling JR, et al. The sGC Activator Runcaciguat Has Kidney Protective Effects and Prevents a Decline of Kidney Function in ZSF1 Rats. *Int J Mol Sci.* 2023 Aug 25;24(17):13226.

[4]. Duh EJ, et al. Neuroprotective Effect of a Novel Soluble Guanylate Cyclase Activator (sGCa) Runcaciguat in Diabetes and Ischemic Retinopathy. *Diabetes.* 2025 Apr 18;db240739.

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Lot CoA and SDS are separate documents.