

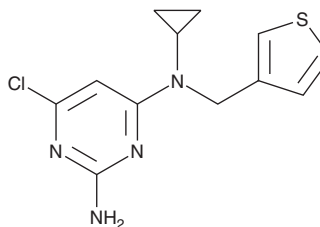
# PRODUCT INFORMATION



## LRE1

Item No. 42438

**CAS Registry No.:** 1252362-53-0  
**Formal Name:** 6-chloro-N<sup>4</sup>-cyclopropyl-N<sup>4</sup>-(2-thienylmethyl)-2,4-pyrimidinediamine  
**Synonym:** RU-0204277  
**MF:** C<sub>12</sub>H<sub>13</sub>ClN<sub>4</sub>S  
**FW:** 280.8  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

LRE1 is supplied as a solid. A stock solution may be made by dissolving the LRE1 in the solvent of choice, which should be purged with an inert gas. LRE1 is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

### Description

LRE1 is an allosteric inhibitor of soluble adenylyl cyclase (sAC; IC<sub>50</sub> = <10 μM).<sup>1</sup> It is selective for sAC over AC1, -2, -5, -8, and -9 at 50 μM. LRE1 inhibits cAMP accumulation in HEK293 cells overexpressing human sAC (IC<sub>50</sub> = 11 μM). It inhibits the activity of mitochondrial complex IV, also known as cytochrome c oxidase, in wild-type but not sAC knockout mouse embryonic fibroblasts (MEFs) when used at a concentration of 50 μM. *Ex vivo*, LRE1 (1.2 mg/kg) reduces ischemia and reperfusion-induced swelling of, and ATP content decreases in, rat liver mitochondria.<sup>2</sup>

### References

1. Ramos-Espiritu, L., Kleinboelting, S., Navarrete, F.A., *et al.* Discovery of LRE1 as a specific and allosteric inhibitor of soluble adenylyl cyclase. *Nat. Chem. Biol.* **12(10)**, 838-844 (2016).
2. Teodoro, J.S., Amorim, J.A., Machado, I.F., *et al.* The soluble adenylyl cyclase inhibitor Ire1 prevents hepatic ischemia/reperfusion damage through improvement of mitochondrial function. *Int. J. Mol. Sci.* **21(14)**, 4896 (2020).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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