

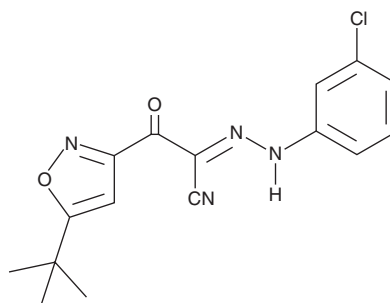
# PRODUCT INFORMATION



## ESI-09

Item No. 19130

**CAS Registry No.:** 263707-16-0  
**Formal Name:**  $\alpha$ -[2-(3-chlorophenyl)hydrazinylidene]-  
5-(1,1-dimethylethyl)- $\beta$ -oxo-3-  
isoxazolepropanenitrile  
**MF:** C<sub>16</sub>H<sub>15</sub>ClN<sub>4</sub>O<sub>2</sub>  
**FW:** 330.8  
**Purity:**  $\geq$ 95%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 252, 367 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

ESI-09 is supplied as a crystalline solid. A stock solution may be made by dissolving the ESI-09 in the solvent of choice, which should be purged with an inert gas. ESI-09 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of ESI-09 in these solvents is approximately 1, 10, and 5 mg/ml, respectively.

ESI-09 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ESI-09 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ESI-09 has a solubility of approximately 0.1 mg/ml in a 1:7 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Exchange protein activated by cAMP (Epac) proteins mediate cAMP signaling independent of protein kinase A (PKA). ESI-09 is an inhibitor of Epac1 and Epac2 with IC<sub>50</sub> values of 3.2 and 1.4  $\mu$ M, respectively. It shows no activity against PKA at concentrations as high as 25  $\mu$ M.<sup>1,2</sup> ESI-09 has been shown to block Akt phosphorylation and insulin secretion in pancreatic  $\beta$  cells, as well as to block the migration of AsPC-1 and PANC-1 pancreatic cancer cells *in vitro*.<sup>1,2</sup>

### References

1. Almahariq, M., Tsalkova, T., Mei, F.C., *et al.* A novel EPAC-specific inhibitor suppresses pancreatic cancer cell migration and invasion. *Mol. Pharmacol.* **83**(1), 122-128 (2013).
2. Zhu, Y., Chen, H., Boulton, S., *et al.* Biochemical and pharmacological characterizations of ESI-09 based EPAC inhibitors: Defining the ESI-09 "therapeutic window". *Sci. Rep.* **5**:9344, (2015).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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