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## Product Data Sheet

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Product Name: Piperazine Erastin  
 Cat. No.: GC36926

### Chemical Properties

Cas. No. 1538593-71-3

SMILES O=C1N(C2=CC(CN3CCNCC3)=CC=C2OC(C)C(CN4CCN(C(COC5=CC=C(CI)C=C5)=O)CC4)=NC6=C1C=CC=C6

Formula C<sub>35</sub>H<sub>41</sub>ClN<sub>6</sub>O<sub>4</sub>

M.Wt 645.19

Solubility DMSO: 33.33 mg/mL (51.66 mM); Water: < 0.1 mg/mL (insoluble)

Storage Store at -20°C

General For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Piperazine erastin is an inducer of ferroptosis.<sup>1,2</sup> It inhibits glutamate release in human CCF-STTG1 astrocytoma cells (IC<sub>50</sub> = 0.8 μM), indicating inhibition of the system x<sub>c</sub><sup>-</sup> cystine/glutamate transporter, and decreases glutathione (GSH) levels in HT-1080 fibrosarcoma cells when used at a concentration of 10 μM. Piperazine erastin inhibits the growth of BJeLR cells overexpressing the H-Ras activating mutation H-Ras<sup>G12V</sup> (IC<sub>50</sub> = 0.3 μM).<sup>1</sup> It increases hepatic mRNA expression of the gene encoding Cox-2 and prevents tumor formation in an HT-1080 mouse xenograft model when administered at a dose of 60 mg/kg.<sup>2</sup>

1. Larraufie, M.-H., Yang, W.S., Jiang, E., et al. Incorporation of metabolically stable ketones into a small molecule probe to increase potency and water solubility. *Bioorg. Med. Chem. Lett.* 25(21):4787-4792 (2015)  
 2. Yang, W.S., SriRamaratnam, R., Welsch, M.E., et al. Regulation of ferroptotic cancer cell death by GPX4. *Cell* 156(1-2):317-331 (2014)

**Caution: Product has not been fully validated for medical applications. For research use only.**

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