

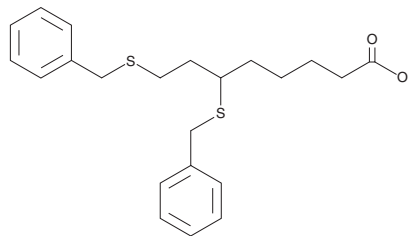
# PRODUCT INFORMATION



## CPI-613

Item No. 16981

**CAS Registry No.:** 95809-78-2  
**Formal Name:** 6,8-bis[(phenylmethyl)thio]octanoic acid  
**MF:** C<sub>22</sub>H<sub>28</sub>O<sub>2</sub>S<sub>2</sub>  
**FW:** 388.6  
**Purity:** ≥98%  
**Supplied as:** A crystalline 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

CPI-613 is supplied as a crystalline solid. A stock solution may be made by dissolving the CPI-613 in the solvent of choice, which should be purged with an inert gas. CPI-613 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of CPI-613 in these solvents is approximately 2, 1, and 0.5 mg/ml, respectively.

### Description

CPI-613 is a lipoic acid analog that inhibits  $\alpha$ -ketoglutarate dehydrogenase, particularly in tumor cells.<sup>1</sup> At 60-240  $\mu$ M, CPI-613 induces a strong mitochondrial burst of reactive oxygen species, resulting in cell death.<sup>1</sup> By disrupting mitochondrial metabolism, CPI-613 demonstrates both *in vitro* and *in vivo* anti-tumor activity through both apoptotic and non-apoptotic pathways.<sup>2-4</sup>

### References

1. Stuart, S.D., Schauble, A., Gupta, S., *et al.* A strategically designed small molecule attacks alpha-ketoglutarate dehydrogenase in tumor cells through a redox process. *Cancer Metab.* **2(1)**, 4 (2014).
2. Lee, K.C., Shorr, R., Rodriguez, R., *et al.* Formation and anti-tumor activity of uncommon *in vitro* and *in vivo* metabolites of CPI-613, a novel anti-tumor compound that selectively alters tumor energy metabolism. *Drug Metab. Lett.* **5(3)**, 163-182 (2011).
3. Zachar, Z., Marecek, J., Maturo, C., *et al.* Non-redox-active lipoate derivatives disrupt cancer cell mitochondrial metabolism and are potent anticancer agents *in vivo*. *J. Mol. Med. (Berl.)* **89(11)**, 1137-1148 (2011).
4. Lee, K.C., Maturo, C., Perera, C.N., *et al.* Translational assessment of mitochondrial dysfunction of pancreatic cancer from *in vitro* gene microarray and animal efficacy studies, to early clinical studies, via the novel tumor-specific anti-mitochondrial agent, CPI-613. *Ann. Transl. Med.* **2(9)**, 91 (2014).

#### 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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