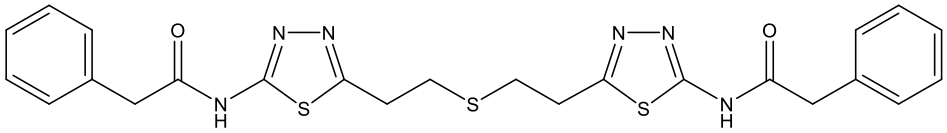
Catalog # 10-5414

BPTES

CAS# 314045-39-1

N,*N*'-[Thiobis(2,1-ethanediyl-1,3,4-thiadiazole-5,2-diyl)]bisbenzeneacetamide

Lot # X109924



A potent and selective allosteric[1] inhibitor of kidney-type glutaminase (GLS1), IC_{50} = 3.3 μM[2]. Selective for GLS1 over GLS2, γ-glutamyl transpeptidase and glutamate dehydrogenase. Shuts down an alternative energy-generating glutaminolysis pathway in P493 cells under both glucose deprivation or hypoxia.[3] Reduces the growth of P493 cell xenografts by 50% over a 10 day treatment.[4] BPTES inhibition of glutamine utilization in cancer cells increases PD-L1 expression.[5] Clears senescent cells and improves various age-related disorders in a geriatric mouse model.[6]

1) DeLaBarre *et al*. (2011), *Full-length human glutaminase in complex with an allosteric inhibitor*; Biochemistry **50** 10764
2) Shukla *et al*. (2012), *Design, synthesis, and pharmacological evaluation of bis-2-(5-phenylacetamido-1,2,4-thiadiazol-2-yl)ethyl sulfide 3 (BPTES) analogs as glutaminase inhibitors*; J. Med. Chem., **55** 10551
3) Le *et al*. (2012), *Glucose-independent glutamine metabolism via TCA cycling for proliferation and survival in B cells*; Cell. Metab. **15** 110
4) Xiang *et al.* (2015), *Targeted inhibition of tumor-specific glutaminase diminishes cell-autonomous tumorigenesis*; J. Clin. Invest. **125** 2293
5) Byun *et al*. (2020), *Inhibition of Glutamine Utilization Synergizes with Immune Checkpoint Inhibitor to Promote Antitumor Immunity*; Mol. Cell. **80** 592
6) Pan and Locasale (2021), *Targeting metabolism to influence aging*; Science **371** 234

PHYSICAL DATA

Molecular Weight:	524.68
Molecular Formula:	$C_{24}H_{24}N_6O_2S_3$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (10 mg/ml)
Physical Description:	White to off-white solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase.
	Solutions in DMSO may be stored at -20°C for up to 2 months.

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