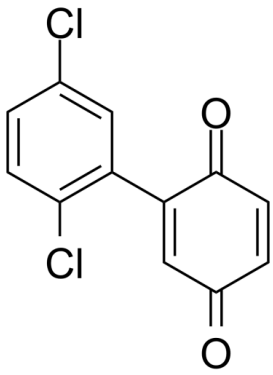
Data Sheet

Product Name:	TPI-1
Cat. No.:	CS-6450
CAS No.:	79756-69-7
Molecular Formula:	C12H6Cl2O2
Molecular Weight:	253.08
Target:	Phosphatase
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 50 mg/mL (197.57 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

TPI-1, also known as Tyrosine Phosphatase Inhibitor 1, is a **SHP-1** inhibitor; inhibits recombinant SHP-1 with an IC_{50} of 40 nM. IC50 & Target: IC50: 40 nM (recombinant SHP-1)[1] **In Vitro:** SHP-1 has been implicated as a potential cancer therapeutic target. TPI-1 is effective starting at 10 ng/mL in increasing SHP-1 phospho-substrates pLck-pY394. TPI-1 selectively increases SHP-1 phospho-substrates (pLck-pY394, pZap70 and pSlp76) in Jurkat T cells but has little effects on pERK1/2 or pLck-pY505. TPI-1 induces mouse splenic-IFNγ$^+$ cells and induces IFNγ$^+$ cells in human peripheral blood[1]. **In Vivo:** TPI-1 inhibits the growth of B16 melanoma tumors in mice at a tolerated oral dose in a T cell-dependent manner but has little effects on B16 cell growth in culture. TPI-1 thus also increases pLck-pY394 and IFNγ$^+$ cells in mice. TPI-1 also inhibits B16 tumor growth and prolongs tumor mice survival as a tolerated s.c. agent[1].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: TPI-1 is prepared in PBS.[1]Mice: For in vivo induction of pLck-pY394 and IFNγ+ cells in mice, C57BL/6J mice are treated with PBS or TPI-1 (1 or 3 mg/kg, s.c.) for 4 days. Spleens are harvested one hour post-treatment on day 4 and processed into splenocytes, which are used for assessing pLck-pY394 levels by SDS-PAGE/Western blotting and for quantification of IFNγ+ cells by ELISPOT assays. Mice are also treated with TPI-1 (10 mg/kg, daily, s.c.) to evaluate the toxicity of the compounds in vivo[1].

References:

[1]. Kundu S, et al. Novel SHP-1 inhibitors tyrosine phosphatase inhibitor-1 and analogs with preclinical anti-tumor activities as tolerated oral agents. J Immunol. 2010 Jun 1;184(11):6529-36.

CAIndexNames:

2,5-Cyclohexadiene-1,4-dione, 2-(2,5-dichlorophenyl)-

SMILES:

ClC1=CC(C2=CC(C=CC2=O)=O)=C(Cl)C=C1

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