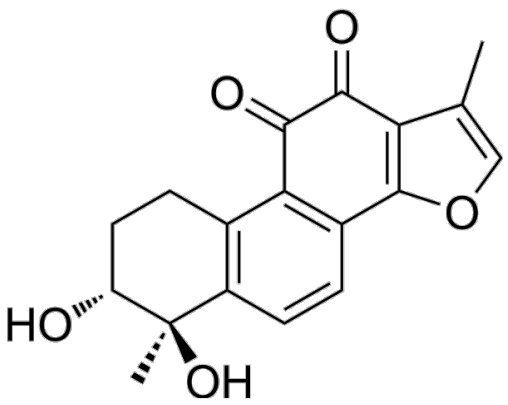
Product Data Sheet

Product Name: Tanshindiol C
Cat. No.: GC70538

Chemical Properties

Cas. No.	97465-71-9		
Formula	$C_{18}H_{16}O_5$	M.Wt	312.32
Solubility		Storage	4°C, protect from light
General tips	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

Tanshindiol C is a S-adenosylmethionine-competitive EZH2 (Histone Methyltransferase) inhibitor with an IC50 of 0.55 μM for inhibiting the methyltransferase activity. Tanshindiol C is also an activator of both Nrf2 and Sirtuin 1 (Sirt1) in macrophages. Tanshindiol C possesses anti-cancer activity, and can be used for atherosclerosis research.

Tanshindiol C (1-10 μM; for 24 h) activates Nrf2 and upregulates Prdx1 expression and mRNA levels in macrophages. Tanshindiol C protects macrophages from oxidized low-density lipoprotein (oxLDL) induced foam cell formation via activation of Prdx1/ABCA1 signaling[1].

Caution: Product has not been fully validated for medical applications. For research use only.
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Tanshindiol C inhibits both wild-type and A667G mutant (K_i value of 176 nM) EZH2 activity with similar potencies[2].
Tanshindiol C inhibits growth of the cell lines such as Pfeiffer, U-2932 and Daudi (lymphoma), PC3 (prostate cancer), T98G and U87MG (glioma), and A549 (lung cancer), with GI_{50} values of 1.5 μM, 9.5 μM, 10.6 μM, 4 μM, 6 μM, 5.7 μM and 4.2 μM, respectively[2].
Tanshindiol C (1-5 μM; 72 hours) induces accumulation of Pfeiffer cells in sub-G1 phase, which indicates cells in late apoptosis and necrosis[2].
Tanshindiol C (1-3 μM; 72 hours) increases protein levels of the important apoptosis related protein markers, cleaved caspase-3, caspase-7 and poly ADP-ribose polymerase (PRAP) in the cells.Tanshindiol C significantly decreases the levels of H3K27me3 in cells[2].

References:
[1]. Yuyu Yang, et al. Tanshindiol C inhibits oxidized low-density lipoprotein induced macrophage foam cell formation via a peroxiredoxin 1 dependent pathway. Biochim Biophys Acta Mol Basis Dis. 2018 Mar;1864(3):882-890.
[2]. Jimin Woo, et al. Biological evaluation of tanshindiols as EZH2 histone methyltransferase inhibitors. Bioorg Med Chem Lett. 2014 Jun 1;24(11):2486-92.

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