PRODUCT INFORMATION



Combretastatin A1

Item No. 19750

CAS Registry No.:	109971-63-3	
Formal Name:	3-methoxy-6-[(1Z)-2-(3,4,5-	
	trimethoxyphenyl)ethenyl]-1,2-benzenediol	
Synonym:	CA1	ОН
MF:	$C_{18}H_{20}O_{6}$	`0´ \
FW:	332.4	
Purity:	≥98%	ОН
Supplied as:	A crystalline solid	
Storage:	-20°C	0
Stability:	≥4 years	
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis		

Laboratory Procedures

Combretastatin A1 is supplied as a crystalline solid. A stock solution may be made by dissolving the combretastatin A1 in the solvent of choice, which should be purged with an inert gas. Combretastatin A1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of combretastatin A1 in ethanol is approximately 3 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Combretastatin A1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, combretastatin A1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Combretastatin A1 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Combretastatin A1 is a cis-stilbene originally isolated from C. caffrum that inhibits microtubule assembly (ID₅₀ = 2 μ M) by binding to the colchicine (Item No. 9000760) binding site on β -tubulin.^{1,2} It inhibits proliferation of hepatocellular carcinoma (IC50s = 9.2-728.2 nM) and other carcinoma cell lines (IC₅₀s = 12.2-2,247 nM).² Combretastatin A1 increases apoptosis of HepG2 cells in a GSK3 β -dependent manner by decreasing the levels of MCL-1 and β -catenin. It inhibits tumor growth in a hepatocellular carcinoma mouse xenograft model when administered at doses of 2 or 4 mg/kg for 4 weeks. It also enhances the effects of carboplatin (Item No. 13112), paclitaxel (Item No. 10461), and cisplatin (Item No. 13119) in murine models of cancer.^{3,4} Combretastatin A1 decreases functional vascular volume within hours in a well-vascularized murine colon adenocarcinoma model.⁵

References

- 1. Pettit, G.R., Singh, S.B., Niven, M.L., et al. J. Nat. Prod. 50(1), 119-131 (1987).
- 2. Mao, J., Wang, D., Wang, Z., et al. Cancer Lett. 380(1), 134-143 (2016).
- 3. Staflin, K., Järnum, S., Hua, J., et al. Int. J. Gynecol. Cancer 16(4), 1557-1564 (2006).
- 4. Shnyder, S.D., Cooper, P.A., Pettit, G.R., et al. Anticancer Res. 23(2B), 1619-1623 (2003).
- 5. Holwell, S.E., Cooper, P.A., Thompson, M.J., et al. Anticancer Res. 22(6C), 3933-3940 (2002).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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.

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