Small Molecules

GANT 58

Hedgehog pathway inhibitor; Inhibits GLI1

Catalog #	73982	5 mg
	73984	10 mg

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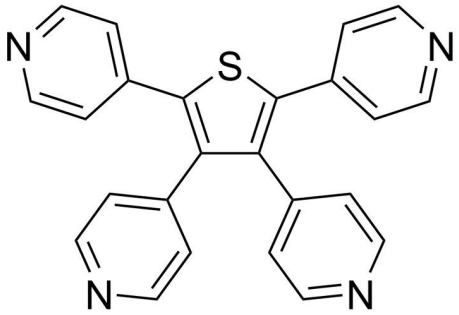
Product Description

GANT 58 inhibits the Hedgehog signaling pathway downstream of Smoothened and Suppressor of Fused (SUFU) leading to GLI1 nuclear accumulation (Joo et al.; Stanton & Peng). GANT 58 demonstrates antiproliferative and antitumor activity in vivo (Beauchamp et al.; Joo et al.).

Molecular Name:	GANT 58
Alternative Names:	NSC 75503
CAS Number:	64048-12-0
Chemical Formula:	$C_{24}H_{16}N_4S$
Molecular Weight:	392.5 g/mol
Purity:	≥ 98%
Chemical Name:	4,4',4'',4'''-(2,3,4,5-thiophenetetrayl)tetrakis-pyridine
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 2.5 mM · Absolute ethanol ≤ 3.5 mM For example, to prepare a 1 mM stock solution in DMSO, resuspend 1 mg in 2.5 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

CANCER RESEARCH
· Reduces anchorage-independent growth in Ewing sarcoma cells (Beauchamp et al.; Joo et al.).
· Inhibits prostate cancer tumor growth (Lauth et al.).
· Causes cell cycle arrest and apoptosis in acute leukemia T cells (Hou et al.).

References

Beauchamp E et al. (2009) GLI1 Is a direct transcriptional target of EWS-FLI1 oncoprotein. J Biol Chem 284(14): 9074–82.
Hou X et al. (2014) Inhibition of hedgehog signaling by GANT58 induces apoptosis and shows synergistic antitumor activity with AKT inhibitor in acute T cell leukemia cells. Biochimie 101: 50–9.
Joo J et al. (2009) GLI1 is a central mediator of EWS/FLI1 signaling in Ewing tumors. PLoS One 4(10): e7608.
Lauth M et al. (2007) Inhibition of GLI-mediated transcription and tumor cell growth by small-molecule antagonists. Proc Natl Acad Sci USA 104(20): 8455–60.
Stanton BZ & Peng LF. (2010) Small-molecule modulators of the Sonic Hedgehog signaling pathway. Mol Biosyst 6(1): 44–54.

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