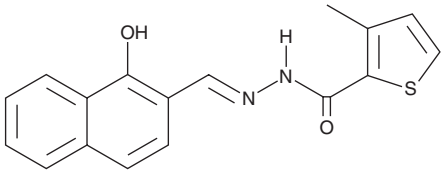
PRODUCT INFORMATION

PCNA-I1

Item No. 20454

CAS Registry No.:	444930-42-1
Formal Name:	3-methyl-2-[(1-hydroxy-2-naphthalenyl) methylene]hydrazide-2-thiophenecarboxylic acid
MF:	$C_{17}H_{14}N_2O_2S$
FW:	310.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 222, 289, 319, 333, 363 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

PCNA-I1 is supplied as a crystalline solid. A stock solution may be made by dissolving the PCNA-I1 in the solvent of choice, which should be purged with an inert gas. PCNA-I1 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of PCNA-I1 in these solvents is approximately 10 mg/ml.

PCNA-I1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PCNA-I1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PCNA-I1 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PCNA-I1 is an inhibitor of proliferating cell nuclear antigen (PCNA) that binds to PCNA trimers (K_d = 0.41 µM) and dose-dependently reduces the level of PCNA associated with chromatin in PC3 cells.[1] It preferentially inhibits growth of a variety of human and mouse cancer cell lines (IC_{50}s = 0.05-0.3 µM) over non-transformed cells (IC_{50}s = 0.99-2 µM). PCNA-I1 leads to an accumulation of cells in the G_1 phase during the first 24 hours of incubation and halts the cell cycle in the S and G_2/M phases by 72 hours following treatment. It also reduces tumor growth in an LNCaP prostate cancer mouse xenograft model when administered at a dose of 10 mg/kg, five days per week, for two weeks.[2]

References

1. Tan, Z., Wortman, M., Dillehay, K.L., *et al*. Small-molecule targeting of proliferating cell nuclear antigen chromatin association inhibits tumor cell growth. *Mol. Pharmacol.* **81(6)**, (2012).
2. Dillehay, K.L., Lu, S., and Dong, Z. Antitumor effects of a novel small molecule targeting PCNA chromatin association in prostate cance. *Mol. Cancer Ther.* **13(12)**, 2817-2826 (2014).

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