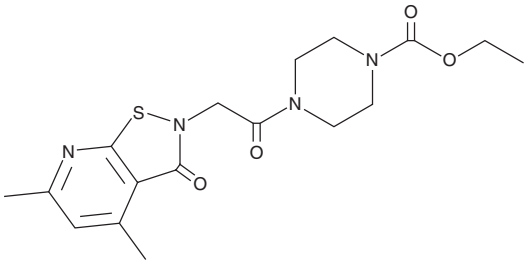
PRODUCT INFORMATION

YMU1

Item No. 21981

CAS Registry No.:	902589-96-2
Formal Name:	4-[2-(4,6-dimethyl-3-oxoisothiazolo[5,4-b]pyridin-2(3H)-yl) acetyl]-1-piperazinecarboxylic acid, ethyl ester
MF:	$C_{17}H_{22}N_4O_4S$
FW:	378.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 226, 254, 319 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

YMU1 is supplied as a crystalline solid. A stock solution may be made by dissolving the YMU1 in the solvent of choice, which should be purged with an inert gas. YMU1 is soluble in organic solvents such as chloroform and dimethyl formamide. The solubility of YMU1 in these solvents is approximately 30 and 0.3 mg/ml, respectively.

Description

YMU1 is an inhibitor of thymidylate kinase (TMPK; IC_{50} = 610 nM).[1] It is selective for thymidylate kinase over thymidine kinase 1. YMU1 (2 and 10 µM) reduces deoxythymidine triphosphate (dTTP) levels by 30-40% in $p58^{-/-}$ HCT116 cells without affecting dATP, dGTP, or dCTP levels. It also sensitizes a variety of cancer cell lines to doxorubicin (Item No. 15007), including $p53^{+/+}$ and $p53^{-/-}$ HCT116, HT-29, SaoS2, MDA-MB-231, and MDA-MB-468 cells. YMU1 reduces tumor growth in a $p53^{-/-}$ HCT116 mouse xenograft model when administered at a dose of 5 mg/kg three times per week for four weeks.

Reference

1. Hu, C.M., Yeh, M.T., Tsao, N., *et al.* Tumor cells require thymidylate kinase to prevent dUTP incorporation during DNA repair. *Cancer Cell.* **22(1)**, 36-50 (2012).

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