Product Data Sheet

Product Name: Calpain Inhibitor II, ALLM
Cat. No.: GC16383

Chemical Properties

Cas. No.	136632-32-1		
Chemical Name	2-acetamido-4-methyl-N-[4-methyl-1-[(4-methylsulfanyl-1-oxobutan-2-yl)amino]-1-oxopentan-2-yl]pentanamide		
SMILES	CC(C)CC(C(=O)NC(CC(C)C)C(=O)NC(CCSC)C=O)NC(=O)C		
Formula	$C_{19}H_{35}N_3O_4S$	M.Wt	401.57
Solubility	≥ 14.85mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Calpain Inhibitor II, ALLM		

Protocol

Cell experiment [1]:

Cell lines	Acute lymphoblastic leukemia (ALL) cell lines (ALL-1, RS4;11, and JURKAT) and non-Hodgkin’s lymphoma (NHL) cell lines (RAMOS and DAUDI)
Preparation method	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37℃ for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20℃ for several months.

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Reaction Conditions	50 or 100 μM; 24 hrs
Applications	At the dose of 50 or 100 μM, Calpain inhibitor II induced apoptosis in ALL (ALL-1, RS4;11, and JURKAT) and NHL (RAMOS and DAUDI) cell lines. Additionally, studies had shown that neither BTK nor LYN were required for Calpain inhibitor II induced apoptosis. Calpain inhibition with Calpain inhibitor II had been demonstrated to activate an apoptosis-promoting caspase system.

References:

[1]. Zhu DM1, Uckun FM. Calpain inhibitor II induces caspase-dependent apoptosis in human acute lymphoblastic leukemia and non-Hodgkin's lymphoma cells as well as some solid tumor cells. Clin Cancer Res. 2000 Jun;6(6):2456-63.

Background

Calpain inhibitor II (CPI-2) is a cell-permeable inhibitor of calpain I, calpan II, cathepsin L and cathepsin B.

Calpain inhibitor II 2 at 50 or 100 μM has shown to induce apoptosis in (acute lymphoblastic leukemia) ALL (ALL-1, RS4;11, and JURKAT) and (non-Hodgkin’s lymphoma) NHL (RAMOS and DAUDI) cell lines, as measured by MC540 single fluorescence. Additionally, studies have shown that neither BTK nor LYN were required for calpain inhibitor II induced apoptosis. Calpain inhibition with calpain inhibitor II has been demonstrated to induce apoptosis-promoting caspase system [1]. Unlike calpain

inhibitor I, calpain inhibitor II cannot inhibit NFkB and sensitize DLD1-TRAIL/R cells to the TRAIL protein [2].

References:

[1] Zhu DM1, Uckun FM. Calpain inhibitor II induces caspase-dependent apoptosis in human acute lymphoblastic leukemia and non-Hodgkin's lymphoma cells as well as some solid tumor cells. Clin Cancer Res. 2000 Jun;6(6):2456-63.
[2] Zhu H1, Zhang L, Huang X, Davis JJ, Jacob DA, Teraishi F, Chiao P, Fang B.Overcoming acquired resistance to TRAIL by chemotherapeutic agents and calpain inhibitor I through distinct mechanisms. Mol Ther. 2004 May;9(5):666-73.