Revision 2

Store at -20C

#56003

SM-164

1 mg

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Background

SM-164 is a bivalent, cell-permeable, non-peptide, SMAC mimetic and potent XIAP inhibitor with an IC_{50} value of 1.39 nM. SM-164 binds to the BIR2 and BIR3 domains of XIAP and effectively inhibits cell growth and induces apoptosis in HL-60 leukemia cells (1). It also activates caspase-3 and caspase-9 that, in turn, induce apoptosis in leukemia cells (1,2). In breast cancer mouse xenograft models, SM-164 in combination with TNF-related apoptosis-inducing ligand (TRAIL) has been shown to reduce tumor volume by 80%. SM-164 is an effective apoptotic inducer of tumor cells and tissues and is a promising candidate for a new class of anticancer drugs (2). Treatment of RIP3-positive cells with SM-164 in combination with TNF-alpha and the caspase inhibitor Z-VAD, leads to necroptosis (3).

Molecular Formula

$C_{62}H_{84}N_{14}O_6$

Molecular Weight

1121.4 g/mol

Purity

>98%

CAS

957135-43-2

Solubility

Soluble in DMSO at 50 mg/mL.

Storage

Store lyophilized at -20ºC, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20ºC and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

SM-164 is supplied as a lyophilized powder. For a 10 mM stock, reconstitute 1 mg of powder in 89 µL of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Sun, H. et al. (2007) *J Am Chem Soc* 129, 15279-94.
2. Lu, J. et al. (2008) *Cancer Res* 68, 9384-93.
3. Sun, L. et al. (2012) *Cell* 148, 213-27.

Trademarks and Patents

Limited Uses