Product Data Sheet

Product Name: NF-κB Activation Inhibitor III
Cat. No.: GC11736

Chemical Properties

Cas. No.	380623-76-7		
Chemical Name	3-chloro-4-nitro-N-(5-nitro-2-thiazolyl)-benzamide		
SMILES	ClC1=C([N+]([O-])=O)C=CC(C(NC2=NC=C([N+]([O-])=O)S2)=O)=C1		
Formula	$C_{10}H_5ClN_4O_5S$	M.Wt	328.7
Solubility	≤100mg/ml in DMSO	Storage	Store at 4°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	NF-κB Activation Inhibitor III		

Background

NF-κB Activation Inhibitor III is a NF-κB inhibitor.

NF-κB (nuclear factor kappa-light-chain-enhancer of activated B cells) is a protein complex controling transcription of DNA, cytokine production as well as cell survival. NF-κB is found in nearly all animal cell types and is involved in cellular responses to stimuli such as cytokines, stress, free radicals, heavy metals, and bacterial or viral antigens.

In vitro: Previous study found that NF-κB Activation Inhibitor III could inhibite TNF-a-induced MMP-9 upregulation in concentration-dependently and showed maximal activity at 10 μM. NF-κB Activation Inhibitor III also inhibited TNF-a-induced MMP-9 mRNA transcript accumulation and protein expression. It was also found that NF-κB Activation Inhibitor III strongly inhibited TNF-a-induced NF-jB activity but not AP-1 activity. In addition, NF-κB Activation Inhibitor III was able to strongly inhibit the TNF-a-induced invasion of HT1080 human fibrosarcoma cell line. These findings demonstrated that NF-κB Activation Inhibitor III was a synthetic compound inhibiting TNF-a-induced MMP-9

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expression, and therefore NF-κB Activation Inhibitor III would be useful for the development of chemotherapy targeting TNF-a-mediated tumor invasion and metastasis [1]. NF-κB Activation Inhibitor III was used to disrupt NF-κB signaling to evaluate the role of syndecans in mediating extracellular matrix integrity [2].

In vivo: So far, there is no animal in vivo data reported.

Clinical trial: Up to now, NF-κB Activation Inhibitor III is still in the preclinical development stage.

References:
[1] H. Y. Lee, K. S. Park, M. K. Kim, et al. A small compound that inhibits tumor necrosis factor-α-induced matrix metalloproteinase-9 upregulation. Biochemical and Biophysical Research Communications 336(2), 716-722 (2005).
[2] H. Yang, H. Liu, X. Li, et al. TNF-α and TGF-β1 regulate Syndecan-4 expression in nucleus pulposus cells: Role of the mitogen-activated protein kinase and NF-κB pathways. Connect.Tissue Res. 56(4), 281-287 (2015).