Product Data Sheet

Product Name: ML-291
Cat. No.: GC13034

Chemical Properties

Cas. No.	1523437-16-2		
Chemical Name	N-[4-[(4-chloro-1-piperidinyl)sulfonyl]phenyl]-5-nitro-2-furancarboxamide		
SMILES	ClC1CCN(S(C2=CC=C(NC(C3=CC=C([N+]([O-])=O)O3)=O)C=C2)(=O)=O)CC1		
Formula	$C_{16}H_{16}ClN_3O_6S$	M.Wt	413.8
Solubility	≤1mg/ml in DMSO;10mg/ml in dimethyl formamide	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	ML-291		

Background

ML-291 is an apoptosis inducer.

Apoptosis, a process of programmed cell death, occurs in multi-cellular organisms. Biochemical events result in characteristic cell changes (morphology) and death. These changes include cell shrinkage, nuclear fragmentation, blebbing, chromatin condensation, chromosomal DNA fragmentation, as well as global mRNA decay.

In vitro: ML-291 was identified as a novel activator of the apoptotic arm of the unfolded protein response (UPR), but not the adaptive arm. Specifically, ML-291 could activate signaling via PERK/eIF2α/CHOP with EC50 value of 762 nM but not through IRE1/XBP1. Moreover, ML-291 induced apoptosis in mouse embryonic fibroblasts overexpressing CHOP, but not in wild-type or CHOP knockout cells. ML-291 showed minimal activity against a panel of 67 receptors, ion channels, as well as transporters, with the exception of the dopamine transporter with 68% inhibition. In addition, ML-291 showed greater

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cytotoxicity than average antitumor cell cytotoxicity against colon, melanoma, and renal cancer cell lines in an NCI-60 panel [1].

In vivo: Up to now, there is no animal in vivo data reported.

Clinical trial: So far, no clinical study has been conducted.

Reference:
[1] Flaherty, D. P.,Golden, J.E.,Liu, C., et al. Selective small molecule activator of the apoptotic arm of the UPR. Probe Reports from the NIH Molecular Libraries Program (2012).