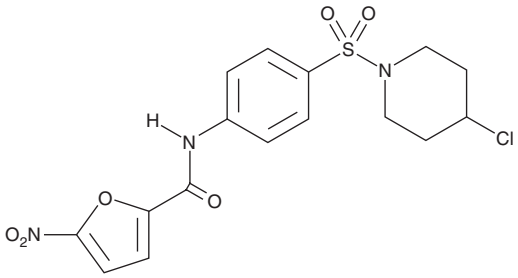
PRODUCT INFORMATION

ML-291

Item No. 19831

CAS Registry No.:	1523437-16-2
Formal Name:	N-[4-[(4-chloro-1-piperidinyl) sulfonyl]phenyl]-5-nitro-2-furancarboxamide
MF:	$C_{16}H_{16}ClN_3O_6S$
FW:	413.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 257, 320 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

ML-291 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-291 in the solvent of choice. ML-291 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of ML-291 in these solvents is approximately 1 and 10 mg/ml, respectively.

Description

ML-291 is a novel activator of the apoptotic arm of the unfolded protein response (UPR), but not the adaptive arm.[1] Specifically, it activates signaling through PERK/eIF2α/CHOP (EC_{50} = 762 nM) but not through IRE1/XBP1 (IC_{50} > 80 µM).[1] ML-291 induces apoptosis in mouse embryonic fibroblasts overexpressing CHOP (EC_{50} ~4.8 µM), but not in wild-type or CHOP knockout cells.[1] It has minimal activity against a panel of 67 receptors, ion channels, and transporters, with the exception of the dopamine transporter (68% inhibition). ML-291 displays greater than average antitumor cell cytotoxicity against colon, melanoma, and renal cancer cell lines in an NCI-60 panel.[1]

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).

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