

Product data sheet



MedKoo Cat#: 406251 Name: MK-8745 CAS: 885325-71-3 Chemical Formula: C ₂₀ H ₁₉ ClFN ₅ OS Exact Mass: 431.0983 Molecular Weight: 431.9142	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

MK-8745 is a novel Aurora-A specific inhibitor. MK8745 induced apoptotic cell death in a p53-dependent manner when tested in vitro in cell lines of multiple lineages. Exposure of p53 wild-type cells to MK8745 resulted in the induction of p53 phosphorylation (ser15) and an increase in p53 protein expression. p53-dependent apoptosis by MK8745 was further confirmed in HCT 116 p53(-/-) cells transfected with wild-type p53. (source: Cell Cycle. 2012 Feb 15;11(4):807-17.)

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	68.67	158.98
Ethanol	1.0	2.32

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.32 mL	11.58 mL	23.15 mL
5 mM	0.46 mL	2.32 mL	4.63 mL
10 mM	0.23 mL	1.16 mL	2.32 mL
50 mM	0.05 mL	0.23 mL	0.46 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Chowdhury A, Chowdhury S, Tsai MY. A novel Aurora kinase A inhibitor MK-8745 predicts TPX2 as a therapeutic biomarker in non-Hodgkin lymphoma cell lines. Leuk Lymphoma. 2012 Mar;53(3):462-71. doi: 10.3109/10428194.2011.619018. Epub 2011 Oct 24. PMID: 21879811.
- Nair JS, Ho AL, Schwartz GK. The induction of polyploidy or apoptosis by the Aurora A kinase inhibitor MK8745 is p53-dependent. Cell Cycle. 2012 Feb 15;11(4):807-17. doi: 10.4161/cc.11.4.19323. Epub 2012 Feb 15. PMID: 22293494; PMCID: PMC3318110.

In vivo study

TBD

7. Bioactivity

Biological target:

MK-8745 is an aurora A kinase inhibitor with an IC₅₀ of 0.6 nM.

Product data sheet



In vitro activity

This study demonstrates that treatment with MK-8745, a novel Aurora-A specific inhibitor, leads to cell cycle arrest at the G2/M phase with accumulation of tetraploid nuclei followed by cell death in non-Hodgkin lymphoma (NHL) cell lines. The sensitivity of the cell lines to MK-8745 is correlated with the expression level of Aurora-A activator. The siRNA knockdown of Aurora-A activator TPX2 (targeting protein for Xenopus kinase-like protein 2) increased MK-8745 sensitivity in less-MK-8745-sensitive NHL cell lines, whereas overexpression of TPX2 in high-MK-8745-sensitive NHL cell lines increased drug resistance.

Reference: Leuk Lymphoma. 2012 Mar;53(3):462-71. <https://pubmed.ncbi.nlm.nih.gov/21879811/>

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.