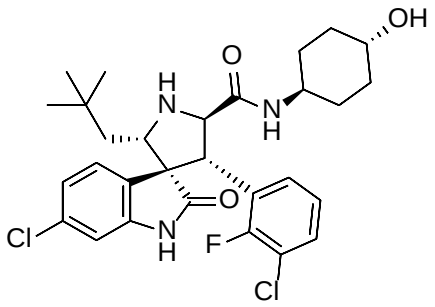
Product data sheet

MedKoo Cat#: 407971 Name: MI-77301 CAS: 1303607-60-4 Chemical Formula: $C_{29}H_{34}Cl_2FN_3O_3$ Exact Mass: 561.1961 Molecular Weight: 562.5074	
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:
MI-77301, also known as SAR405838, is a MDM2 inhibitor. MI-77301 binds to MDM2 with a Ki value of 0.88 nM and blocks the MDM2-p53 interaction. It activates wild-type p53 in vitro and in xenograft tumor tissue of leukemia and solid tumors, leading to p53-dependent cell cycle arrest and/or apoptosis.

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
DMF	25.0	44.44
DMSO	75.0	133.33
Ethanol	25.0	44.44
Ethanol:PBS (pH 7.2) (1:3)	0.25	0.44

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.78 mL	8.89 mL	17.78 mL
5 mM	0.36 mL	1.78 mL	3.56 mL
10 mM	0.18 mL	0.89 mL	1.78 mL
50 mM	0.04 mL	0.18 mL	0.36 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

1. Lu J, McEachern D, Li S, Ellis MJ, Wang S. Reactivation of p53 by MDM2 Inhibitor MI-77301 for the Treatment of Endocrine-Resistant Breast Cancer. Mol Cancer Ther. 2016 Dec;15(12):2887-2893. doi: 10.1158/1535-7163.MCT-16-0028. Epub 2016 Oct 7. PMID: 27765850; PMCID: PMC5367629.
2. Bill KL, Garnett J, Meaux I, Ma X, Creighton CJ, Bolshakov S, Barriere C, Debussche L, Lazar AJ, Prudner BC, Casadei L, Braggio D, Lopez G, Zewdu A, Bid H, Lev D, Pollock RE. SAR405838: A Novel and Potent Inhibitor of the MDM2:p53 Axis for the Treatment of Dedifferentiated Liposarcoma. Clin Cancer Res. 2016 Mar 1;22(5):1150-60. doi: 10.1158/1078-0432.CCR-15-1522. Epub 2015 Oct 16. Erratum in: Clin Cancer Res. 2022 Jan 15;28(2):431. PMID: 26475335; PMCID: PMC4775372.

In vivo study

1. Lu J, McEachern D, Li S, Ellis MJ, Wang S. Reactivation of p53 by MDM2 Inhibitor MI-77301 for the Treatment of Endocrine-Resistant Breast Cancer. Mol Cancer Ther. 2016 Dec;15(12):2887-2893. doi: 10.1158/1535-7163.MCT-16-0028. Epub 2016 Oct 7. PMID: 27765850; PMCID: PMC5367629.

Product data sheet

2. Hoffman-Luca CG, Yang CY, Lu J, Ziazadeh D, McEachern D, Debussche L, Wang S. Significant Differences in the Development of Acquired Resistance to the MDM2 Inhibitor SAR405838 between In Vitro and In Vivo Drug Treatment. PLoS One. 2015 Jun 12;10(6):e0128807. doi: 10.1371/journal.pone.0128807. PMID: 26070072; PMCID: PMC4466389.

7. Bioactivity

Biological target:

SAR405838 (MI-77301), an analog of MI-773, is a highly potent and selective MDM2-p53 interaction inhibitor.

In vitro activity

This study reports on the preclinical effects of SAR405838, a novel and highly selective MDM2 small-molecule inhibitor, in both in vitro and in vivo DDLPS models. SAR405838 effectively stabilized p53 and activated the p53 pathway, resulting in abrogated cellular proliferation, cell-cycle arrest, and apoptosis. Similar results were observed with Nutlin-3a and MI-219; however, significantly higher concentrations were required.

Reference: Clin Cancer Res. 2016 Mar 1;22(5):1150-60. https://pubmed.ncbi.nlm.nih.gov/26475335/

In vivo activity

Treatment of the parental SJSA-1 xenograft tumors with SAR405838 in mice yields rapid tumor regression but the tumors eventually regrow. Harvesting and culturing tumors obtained from a prolonged treatment with SAR405838 in mice established additional in vivo sublines, which all contain a single heterozygous C176F mutation with no additional p53 mutation detected.

Reference: PLoS One. 2015 Jun 12;10(6):e0128807. https://pubmed.ncbi.nlm.nih.gov/26070072/

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.