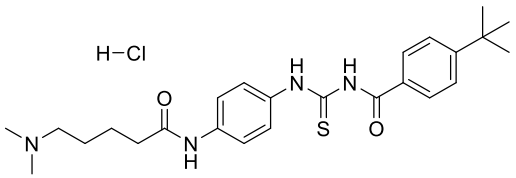
Product data sheet

MedKoo Cat#: 406433 Name: Tenovin-6 HCl CAS#: 1011301-29-3 (HCl) Chemical Formula: $C_{25}H_{35}ClN_4O_2S$ Molecular Weight: 491.09	
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:
Tenovin-6, also known as Tnv-6, is a bioactive small molecule SIRT2 inhibitor with anti-neoplastic activity. Inhibition of the Sirtuin class of protein deacetylases with activation of p53 function is associated with the pro-apoptotic effects of Tnv-6 in many tumors. Tnv-6 causes non-genotoxic cytotoxicity, without adversely affecting human clonogenic hematopoietic progenitors in vitro, or murine hematopoiesis. Mechanistically, exposure of CLL cells to Tnv-6 did not induce cellular apoptosis or p53-pathway activity. Transcriptomic profiling identified a gene program influenced by Tnv-6 that included autophagy-lysosomal pathway genes.

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	49.0	99.78

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.04 mL	10.18 mL	20.36 mL
5 mM	0.41 mL	2.04 mL	4.07 mL
10 mM	0.20 mL	1.02 mL	2.04 mL
50 mM	0.04 mL	0.20 mL	0.41 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. Ke X, Qin Q, Deng T, Liao Y, Gao SJ. Heterogeneous Responses of Gastric Cancer Cell Lines to Tenovin-6 and Synergistic Effect with Chloroquine. Cancers (Basel). 2020 Feb 5;12(2):365. doi: 10.3390/cancers12020365. PMID: 32033497; PMCID: PMC7072542.
2. Yuan H, Tan B, Gao SJ. Tenovin-6 impairs autophagy by inhibiting autophagic flux. Cell Death Dis. 2017 Feb 9;8(2):e2608. doi: 10.1038/cddis.2017.25. Erratum in: Cell Death Dis. 2018 Jul 16;9(8):790. PMID: 28182004; PMCID: PMC5386474.

In vivo study

1. Sun J, Li G, Liu Y, Ma M, Song K, Li H, Zhu D, Tang X, Kong J, Yuan X. Targeting histone deacetylase SIRT1 selectively eradicates EGFR TKI-resistant cancer stem cells via regulation of mitochondrial oxidative phosphorylation in lung adenocarcinoma. Neoplasia. 2020 Jan;22(1):33-46. doi: 10.1016/j.neo.2019.10.006. Epub 2019 Nov 22. PMID: 31765940; PMCID: PMC6881627.
2. He M, Tan B, Vasan K, Yuan H, Cheng F, Ramos da Silva S, Lu C, Gao SJ. SIRT1 and AMPK pathways are essential for the proliferation and survival of primary effusion lymphoma cells. J Pathol. 2017 Jul;242(3):309-321. doi: 10.1002/path.4905. Epub 2017 May 13. PMID: 28393364; PMCID: PMC5503455.

7. Bioactivity
Biological target:

Product data sheet

Tenovin-6 Hydrochloride is an activator of p53 transcriptional activity and inhibits the protein deacetylase activities of purified human SIRT1, SIRT2, and SIRT3 with IC50s of 21 μM, 10 μM, and 67 μM, respectively.

In vitro activity

To further confirm the inhibitory effect of tenovin-6 on autophagic flux, this study challenged the cells with Torin 1, a potent inhibitor of catalytic mechanistic target of rapamycin, to induce autophagy and examined SQSTM1/p62 level by western blotting and immunofluorescence assay. Torin 1 treatment induced LC3B-II (Figure 3a). Tenovin-6 treatment increased the number and intensity of autophagic vesicles with or without the presence of Torin 1. Taken together, these results indicated that tenovin-6 inhibited the autophagic flux induced by Torin 1.

Reference: Cell Death Dis. 2017 Feb; 8(2): e2608. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5386474/

In vivo activity

Of the 7 mice in control group, 2 (28.6%), 4 (57.1%) and 6 (85.7%) developed PEL (primary effusion lymphoma) at week 3, 4 and 6 post-inoculation, respectively, while of the 8 mice treated with Tenovin-6, 0 (0%), 2 (25%) and 2 (25%) developed PEL, respectively, at the same time points (Figure 6A). Tenovin-6 significantly extended the survival of mice compared to those treated with vehicle control (undefined vs 42 days, $P < 0.01$) (Figure 6B). All mice in control group developed ascites while only 3 of 8 mice (37.5%) in the Tenovin-6 group developed ascites. The Tenovin-6 group also had significantly less ascites than the control group ($P < 0.01$) (Figure 6C).

Reference: J Pathol. 2017 Jul; 242(3): 309–321. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5503455/

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.