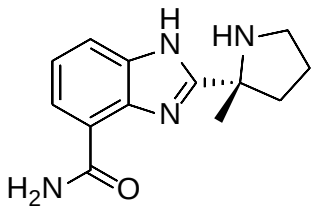
Product data sheet

MedKoo Cat#: 203115 Name: Veliparib free base CAS#: 912444-00-9 (free base) Chemical Formula: $C_{13}H_{16}N_4O$ Exact Mass: 244.1324 Molecular Weight: 244.29	
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:
Veliparib, also known as ABT-888, is a poly(ADP-ribose) polymerase (PARP) -1 and -2 inhibitor with chemosensitizing and antitumor activities. With no antiproliferative effects as a single agent at therapeutic concentrations, ABT-888 inhibits PARPs, thereby inhibiting DNA repair and potentiating the cytotoxicity of DNA-damaging agents.

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	31.0	126.90
DMF	0.25	1.02
Ethanol	0.10	0.41
PBS (pH 7.2)	10.0	40.93

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	4.09 mL	20.47 mL	40.93 mL
5 mM	0.82 mL	4.09 mL	8.19 mL
10 mM	0.41 mL	2.05 mL	4.09 mL
50 mM	0.08 mL	0.41 mL	0.82 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. Li YF, Wen LM, Zhao J, Lv GD, Lu S, Lu S, Zheng X, Chen B, Tian CY, Gong YH, Gao HJ, Wang JH. In Vitro and In Vivo Efficacy of DNA Damage Repair Inhibitor Veliparib in Combination with Artesunate against Echinococcus granulosus. Dis Markers. 2020 Jul 1;2020:8259820. doi: 10.1155/2020/8259820. PMID: 32714467; PMCID: PMC7355356.

In vivo study

1. Donawho CK, Luo Y, Luo Y, Penning TD, Bauch JL, Bouska JJ, Bontcheva-Diaz VD, Cox BF, DeWeese TL, Dillehay LE, Ferguson DC, Ghoreishi-Haack NS, Grimm DR, Guan R, Han EK, Holley-Shanks RR, Hristov B, Idler KB, Jarvis K, Johnson EF, Kleinberg LR, Klinghofer V, Lasko LM, Liu X, Marsh KC, McGonigal TP, Meulbroek JA, Olson AM, Palma JP, Rodriguez LE, Shi Y, Stavropoulos JA, Tsurutani AC, Zhu GD, Rosenberg SH, Giranda VL, Frost DJ. ABT-888, an orally active poly(ADP-ribose) polymerase inhibitor that potentiates DNA-damaging agents in preclinical tumor models. Clin Cancer Res. 2007 May 1;13(9):2728-37. doi: 10.1158/1078-0432.CCR-06-3039. PMID: 17473206.

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2. Li YF, Wen LM, Zhao J, Lv GD, Lu S, Lu S, Zheng X, Chen B, Tian CY, Gong YH, Gao HJ, Wang JH. In Vitro and In Vivo Efficacy of DNA Damage Repair Inhibitor Veliparib in Combination with Artesunate against Echinococcus granulosus. Dis Markers. 2020 Jul 1;2020:8259820. doi: 10.1155/2020/8259820. PMID: 32714467; PMCID: PMC7355356.

7. Bioactivity

Biological target: Veliparib (ABT-888) inhibits PARP1 and PARP2 with Kis of 5.2 and 2.9 nM, respectively.

In vitro activity

The effects of DNA damage repair inhibitor Veliparib in combination with artesunate (AS) on hydatid cysts was evaluated in vitro. Protoscoleces of E. granulosus (E.g PSCs) were incubated with low AS (AS-L, 65 μM), moderate AS (AS-M, 130 μM), and high AS (AS-H, 325 μM), AS-L/M/H+Veliparib (10 μM), and ABZ (25 μM), respectively. The AS-H+Veliparib group showed the maximal protoscolicidal effects. Ultrastructural change revealed that germinal layer (GL) cells were reduced, and lipid droplets appeared. AS could induce DNA injuries in PSCs. The 8-OHdG was expressed in the PSCs and GL of the cysts in mice, especially in the presence of Veliparib. The most severe DNA damages were observed in the AS-H+Veliparib group. Meanwhile, the expression of ribosomal protein S9 (RPS9) gene in the AS-H+Veliparib group was significantly lower than that in the AS-H group.

Reference: Dis Markers. 2020 Jul 1;2020:8259820. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7355356/

In vivo activity

The in vivo efficacy of ABT-888 was evaluated in syngeneic and xenograft models in combination with temozolomide, platinums, cyclophosphamide, and ionizing radiation. ABT-888 strongly potentiated temozolomide in the B16F10 s.c. murine melanoma model. PARP inhibition dramatically increased the efficacy of temozolomide at ABT-888 doses as low as 3.1 mg/kg/d and a maximal efficacy achieved at 25 mg/kg/d. In the 9L orthotopic rat glioma model, temozolomide alone exhibited minimal efficacy, whereas ABT-888, when combined with temozolomide, significantly slowed tumor progression. In the MX-1 breast xenograft model (BRCA1 deletion and BRCA2 mutation), ABT-888 potentiated cisplatin, carboplatin, and cyclophosphamide, causing regression of established tumors, whereas with comparable doses of cytotoxic agents alone, only modest tumor inhibition was exhibited. Finally, ABT-888 potentiated radiation (2 Gy/d x 10) in an HCT-116 colon carcinoma model. In each model, ABT-888 did not display single-agent activity.

Reference: Clin Cancer Res. 2007 May 1;13(9):2728-37. https://clincancerres.aacrjournals.org/content/13/9/2728.long

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.