



# Olaparib

# Data Sheet

<b>Catalog Number:</b>	MC11077	<b>Product Type:</b>	Small Molecule
<b>Bio-Activity:</b>	PARP1 inhibitor	<b>CAS #:</b>	763113-22-0
<b>Research Categories:</b>	Cancer, inflammation	<b>Chemical Name:</b>	4-(3-(4-(Cyclopropanecarbonyl)piperazine-1-carbonyl)-4-fluorobenzyl)phthalazine-1(2H)-one
<b>Solubility:</b>	Soluble in DMSO (up to 33 mg/ml) or in Ethanol (up to 1.7 mg/ml)	<b>Molecular Formula:</b>	C <sub>24</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>3</sub>
<b>Purity:</b>	> 98%	<b>Molecular Weight:</b>	434.47
<b>Format:</b>	Powder	<b>Ship Temp:</b>	Ambient
<b>Storage:</b>	-20°C		

## Application Notes

### Description/Data:

A highly potent and selective PARP-inhibitor with IC<sub>50</sub> values of 5 nM and 1 nM for PARP-1 and PARP-2, respectively [1]. In a genetically engineered mouse model for BRCA1-associated breast cancer olaparib inhibited tumor growth and improved survival with no signs of toxicity [2]. Synergizes with many other anticancer agents [3]. Shows efficacy in colorectal cancers [4]. Prevents house dust mite allergen-induced asthma in a mouse model [5].

### References:

- 1) Menear et al. (2008), 4-[3-(4-Cyclopropanecarbonylpiperazine-1-carbonyl)-4-fluorobenzyl]-2H-phthalazin-1-one: a novel bioavailable inhibitor of poly(ADP-ribose)polymerase-1; *J.Med.Chem.* 51 6581
- 2) Rottenberg et al. (2008), High sensitivity of BRCA1-deficient mammary tumors to the PARP inhibitor AZD2281 alone and in combination with platinum drugs; *Proc.Natl.Acad.Sci.USA* 105 17079
- 3) Avila-Arroyo et al. (2015), Synergistic effect of Trabectedin and Olaparib combination regimen in breast cancer cell lines; *J.Breast Cancer* 18 329
- 4) Xu et al. (2015), Combined olaparib and oxaliplatin inhibits tumor proliferation and induces G2/M arrest and γ-H2AX foci formation in colorectal cancer; *Onco.Targets Ther.* 8 3047

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5) Ghonim et al. (2015), PARP is activated in human asthma and its inhibition by olaparib blocks house dust mite-induced disease in mice; Clin.Sci.(Lond) 129 951

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