

# PRODUCT INFORMATION

## Olaparib-d<sub>4</sub> Item No. 9002700

**Formal Name:** 4-[[3-[[4-(cyclopropylcarbonyl-d<sub>4</sub>)-1-piperazinyl]carbonyl]-4-fluorophenyl]methyl]-1(2H)-phthalazinone

**MF:** C<sub>24</sub>H<sub>19</sub>D<sub>4</sub>FN<sub>4</sub>O<sub>3</sub>

**FW:** 438.5

**Chemical Purity:** ≥98% (Olaparib)

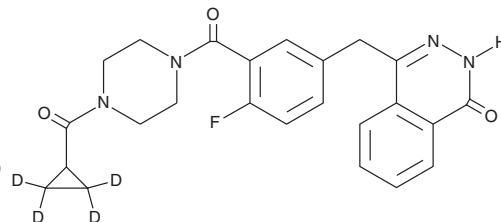
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>

**UV/Vis.:** λ<sub>max</sub>: 277 nm

**Supplied as:** A solid

**Storage:** 4°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Olaparib-d<sub>4</sub> is intended for use as an internal standard for the quantification of olaparib (Item No. 10621) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Olaparib-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the olaparib-d<sub>4</sub> in the solvent of choice. Olaparib-d<sub>4</sub> is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of olaparib-d<sub>4</sub> in these solvents is approximately 10 and 3 mg/ml, respectively.

### Description

Olaparib is a potent inhibitor of PARP1 and PARP2 (IC<sub>50</sub>s = 5 and 1 nM, respectively) but is less effective against the PARP tankyrase-1 (IC<sub>50</sub> = 1.5 μM).<sup>1</sup> It can be used in cells and in animals, alone or in combination therapy with alkylating agents, to block base excision repair and increase cancer cell death.<sup>1-4</sup>

### References

1. Menear, K.A., Adcock, C., Boulter, R., *et al.* 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**(20), 6581-6591 (2008).
2. Yuan, Y., Liao, Y.M., Hsueh, C.T., *et al.* Novel targeted therapeutics: Inhibitors of MDM2, ALK and PARP. *J. Hematol. Oncol.* **4**(16), 1-14 (2011).
3. Plummer, R. Poly(ADP-ribose) polymerase inhibition: A new direction for BRCA and triple-negative breast cancer? *Breast Cancer Res.* **13**(4), 1-6 (2011).
4. Javle, M. and Curtin, N.J. The potential for poly (ADP-ribose) polymerase inhibitors in cancer therapy. *Ther. Adv. Med. Oncol.* **3**(6), 257-267 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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