PARP Inhibitors

FOCUS BIOMOLECULES

Poly (ADP-ribose) polymerases (PARP) catalyze the synthesis of poly ADP-ribose chains on DNA and protein targets. The involvement of PARP1 and 2 in single strand break repair has made PARPs attractive targets for breast and ovarian cancer.[1] Rapidly dividing mitotic cancer cells or tumors with mutations in DNA-repair pathways (BRCA1, BRCA2 or PALB2) are sensitive to PARP inhibitors whereas normal cells with intact DNA repair pathways can survive inhibition of PARP. Interestingly, certain classes of PARP inhibitors can trap PARP proteins on damaged DNA, a novel mechanism of action that leads to apoptosis distinct from inhibiting PARP catalytic activity.[2]

PJ-34 HCl

Potent and selective inhibitor of PARP1 & 2. EC_{50} = 20 nM.[3] Causes PARP1 independent, p21 dependent mitotic arrest.[4]

Product No: 10-2395 **5 mg** **25 mg**

Olaparib

A single digit nM inhibitor of PARP1 & 2.[5] Inhibition of PARP1 by olaparib prevents repair of single-strand breaks.

Product No: 10-2154 **5 mg** **25 mg**

GPI-16552

Novel and potent inhibitor of poly(ADP-ribose)glycohydrolase (PARG).[7]

Product No: 10-1502 **5 mg** **25 mg**

Iniparib

Iniparib has been reported to inhibit PARP by covalent binding to the DNA binding domain but this result has been controversial.[8]

Product No: 10-2574 **10 mg** **50 mg**

ME-0328

Potent PARP3 inhibitor with selectivity over PARP1, PARP2 and other ARDT enzymes.[9]

Product No: 10-1484 **5 mg** **25 mg**

Rucaparib phosphate

Potent PARP1 inhibitor.[10] Synergizes with other anticancer agents.[11,12]

Product No: 10-3321 **5 mg** **25 mg**

UPF-1069

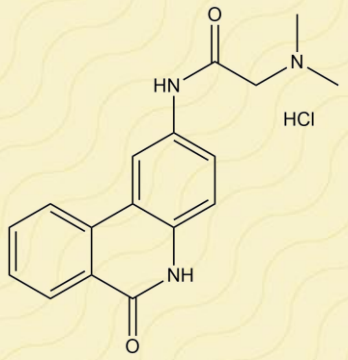
UPF-1069 is a selective PARP2 inhibitor with 27-fold selectivity over PARP1.[13]

Product No: 10-3779 **5 mg** **25 mg**

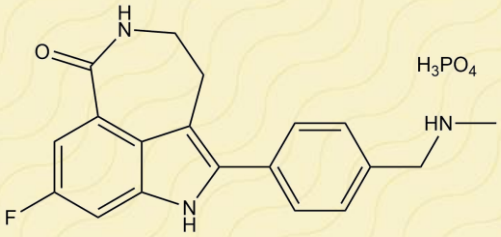
Veliparib 2HCl

Potent PARP1 and PARP2 inhibitor.[14] Restores sensitivity to temozolomide and enhances radiotherapy sensitivity.[15]

Product No: 10-2419 **5 mg** **25 mg**



PJ-34 HCl



Rucaparib phosphate

REFERENCES

1. Morales *et al.* (2014) Crit. Rev. Eukaryot. Gene Expr., **24** 15
2. Murai *et al.* (2012) Cancer Res., **72** 5588
3. Pellicciari *et al.* (2008) Chem. Med. Chem., **3** 914
4. Madison *et al.* (2011) DNA Repair, **10** 1003
5. Menear *et al.* (2008) J. Med. Chem. **51** 6581
6. Purnell and Whish (1980) Biochem. J. **185** 775
7. Zhange et al. (2002) Drugs Future **27** 371
8. Sinha *et al.* (2014) J. Natl. Cancer Inst., **106** 447
9. Lindgren *et al.* (2013) ACS Chem. Biol. **8** 1689
10. Thomas *et al.* (2007) Mol. Cancer Ther. **6** 945
11. Ihnen *et al.* (2013) Mol. Cancer Ther. **12** 1002
12. Plummer *et al.* (2013) Cancer Chemother. Pharmacol. **71** 1191
13. Thorsell *et al.* (2017) J. Med. Chem. **60** 1262
14. Donasho *et al.* (2007) Clin. Cancer Res. **13** 2728
15. Yuan *et al.* (2018) PLoS One **13** e0202860

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