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ERRATUM

The following was originally published in Volume 25, Number 9, pages 1441–1451 (DOI: https://doi.org/10.3727/096504017X14926854178616). Information shown in Table 1 appeared incorrectly as (mM) ± SE in the column headings. The correct information should have appeared as (μM ± SE). The file available online has been corrected and the corrected Table 1 is shown below.

The Inhibitory Effects of HYDAMTIQ, a Novel PARP Inhibitor, on Growth in Human Tumor Cell Lines With Defective DNA Damage Response Pathways

Enrico Mini,* Ida Landini,* Laura Lucarini,† Andrea Lapucci,* Cristina Napoli,‡ Gabriele Perrone,* Renato Tassi,* Emanuela Masini,† Flavio Moroni,† and Stefania Nobili‡

*Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy
†Department of NEUROFARBA, University of Florence, Florence, Italy
‡Department of Health Sciences, University of Florence, Florence, Italy

The poly(ADP-ribose) polymerase (PARP) enzymes play a key role in the regulation of cellular processes (e.g., DNA damage repair, genomic stability). It has been shown that PARP inhibitors (PARPIs) are selectively cytotoxic against cells having dysfunctions in genes involved in DNA repair mechanisms (synthetic lethality). Drug-induced PARP inhibition potentiates the activity of anticancer drugs such as 5-fluorouracil in enhancing DNA damage, whose repair involves PARP-1 activity. The aim of this study was to evaluate the inhibitory effects of a novel PARPI, HYDAMTIQ, on growth in human tumor cell lines characterized by different features with regard to DNA damage response pathways (*BRCA* mutational status, microsatellite status, and ATM expression level) and degree of sensitivity/resistance to 5-fluorouracil. HYDAMTIQ showed a more potent inhibitory effect on cell growth in a *BRCA2* mutant cell line (CAPAN-1) compared with wild-type cells (C2-6, C2-12, and C2-14 CAPAN-1 clones, and MCF-7). No statistically significant difference was observed after HYDAMTIQ exposure between cells having a different MS status or a different MRE11 mutational status. HYDAMTIQ induced greater antiproliferative effects in SW620 cells expressing a low level of ATM than in H630 cells expressing a high level of ATM. Finally, the combination of HYDAMTIQ and 5-fluorouracil exerted a synergistic effect on the inhibition of SW620 cell growth and an antagonistic effect on that of H630 cell growth. Our results show that the novel PARP inhibitor HYDAMTIQ potently inhibits the growth of human tumor cells with defective DNA damage response pathways and exerts synergistic cytotoxicity in combination with 5-fluorouracil. These data provide relevant examples of synthetic lethality and evidence for further development of this novel PARPI.

Key words: PARP inhibitors (PARPIs); HYDAMTIQ; 5-Fluorouracil (5-FU); Human tumor cell lines; DNA damage response

Address correspondence to Enrico Mini, Department of Experimental and Clinical Medicine, University of Florence, Viale Pieraccini, 6, 50139 Firenze, Italy. Tel: +39-055-2758368; E-mail: enrico.mini@unifi.it *or* Stefania Nobili, Department of Health Sciences, University of Florence, Viale Pieraccini, 6, 50139 Firenze, Italy. Tel: +39-055-2758386; E-mail: stefania.nobili@unifi.it

Table 1. Inhibitory Effects of HYDAMTIQ and Olaparib on Cell Growth of Tumor Cell Lines With Different *BRCA1/2* Mutational Status After 72, 144, and 240 h of Exposure

	HYDAMTIQ, IC_{50} (μM ± SE)			Olaparib, IC_{50} (μM ± SE)		
	72 h	144 h	240 h	72 h	144 h	240 h
CAPAN-1	16.8 ± 0.3	5.4 ± 0.1	1.9 ± 0.1	9.4 ± 0.8	2.4 ± 0.1	1.9 ± 0.1
n	3	3	3	3	3	3
CAPAN-1 C2-6	30.2 ± 1.0	9.7 ± 0.8	4.3 ± 0.2	13.3 ± 0.8	5.6 ± 0.2	4.4 ± 0.3
r	1.8	1.8	2.3	1.4	2.4	2.4
n	3	3	3	3	3	3
p	0.002	0.037	0.002	0.146	0.0010	0.011
CAPAN-1 C2-12	33.7 ± 1.3	11.6 ± 1.0	4.5 ± 0.1	15.1 ± 0.3	7.7 ± 0.2	4.3 ± 0.1
r	2.0	2.1	2.4	1.6	3.3	2.3
n	3	3	3	3	3	3
p	0.002	0.023	0.001	0.016	0.0001	0.0006
CAPAN-1 C2-14	34.5 ± 1.0	9.7 ± 0.4	3.9 ± 0.1	18.5 ± 2.0	7.6 ± 0.2	3.1 ± 0.2
r	2.1	1.8	2.0	1.5	2.9	1.8
n	3	3	3	3	3	3
p	0.001	0.004	0.001	0.004	<0.0001	0.042
MCF-7	44.7 ± 2.6	30.4 ± 3.4	8.3 ± 0.9	26.1 ± 0.6	19.9 ± 0.9	3.3 ± 0.3
r	2.7	5.6	4.4	2.8	8.4	1.8
n	4	4	3	4	4	3
p	0.007	0.026	0.026	0.003	0.004	0.054

IC_{50}, concentration of drug required to inhibit cell growth by 50%; SE, standard error; *r*, resistance index; *n*, number of experiments; *p*, HYDAMTIQ or olaparib IC_{50} values of CAPAN-1 cells versus CAPAN-1 clones or MCF-7 cells.