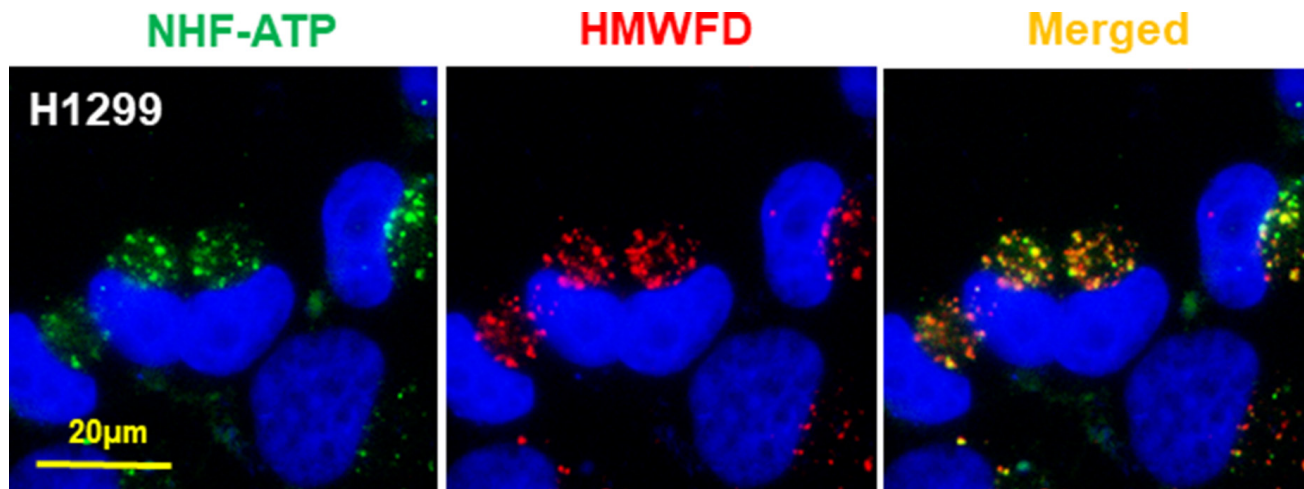


Extracellular ATP, as an energy and phosphorylating molecule, induces different types of drug resistances in cancer cells through ATP internalization and intracellular ATP level increase

SUPPLEMENTARY MATERIALS



Supplementary Figure 1: H1299 cells internalize NHF-ATP and HMWFD by macropinocytosis. Human non-small cell lung cancer H1299 cells grown on coverslips were incubated with NHF-ATP (green) and HMWFD (red) as described in Figure 2 for A549 cells. After incubation, and fixation, cells were visualized with fluorescent microscopy and analyzed by Image J. Yellowish spots in the merged photo indicate the co-internalization of NHF-ATP and HMWFD and intracellular location of macropinosomes.

Supplementary Table 1: Concentrations of anticancer drugs used for each cell line (μM)

	Sunitinib	Sorafenib	Gefitinib	Erlotinib	Imatinib	Paclitaxel	Cisplatin	Doxorubicin
A549 (lung)	20	20	20	40	10	2	120	5
MCF7 (breast)	20	20	20	40	30	2	30	5
HT-29 (colon)	20	20	20	40	10	2	120	1
PANC-1 (pancreas)	20	20	30	40	30	2	30	5
SK-HEP-1 (liver)	20	20	40	60	50	2	60	5

Supplementary Table 2: iATP elevation induced by eATP and ABC transporters expressed by five cancer cell lines

	iATP elevation	ABC transporters expression
A549 (lung)	Yes	ABCB1, ABCC1, ABCG2 [1, 2]
SK-HEP-1 (liver)	Yes	ABCB1, ABCC1, ABCC2 [3, 4]
MCF7 (breast)	Yes	ABCG2 [5]
HT-29 (colon)	Not detectable	ABCC1, ABCC3 [6, 7]
PANC-1 (pancreas)	Yes	ABCC1, ABCG2 [8, 9]

Note: References are listed below.

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Supplementary Table 3: ABC transporters responsible for the efflux of different drugs

	Sunitinib	Sorafenib	Gefitinib	Erlotinib	Imatinib	Paclitaxel	Cisplatin	Doxorubicin
ABC transporters	ABCB1 ABCC1 ABCG2 [1–3]	ABCG2 [4]	ABCB1 ABCG2 [5, 6]	ABCG2 [7]	ABCB1 ABCG2 [8, 9]	ABCB1 ABCC1 [10]	ABCC2 ABCC3 [10]	ABCB1 ABCC2 ABCC3 ABCC5 ABCC6 [10]

Note: References are listed below.

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