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Cellular and Molecular Life Sciences

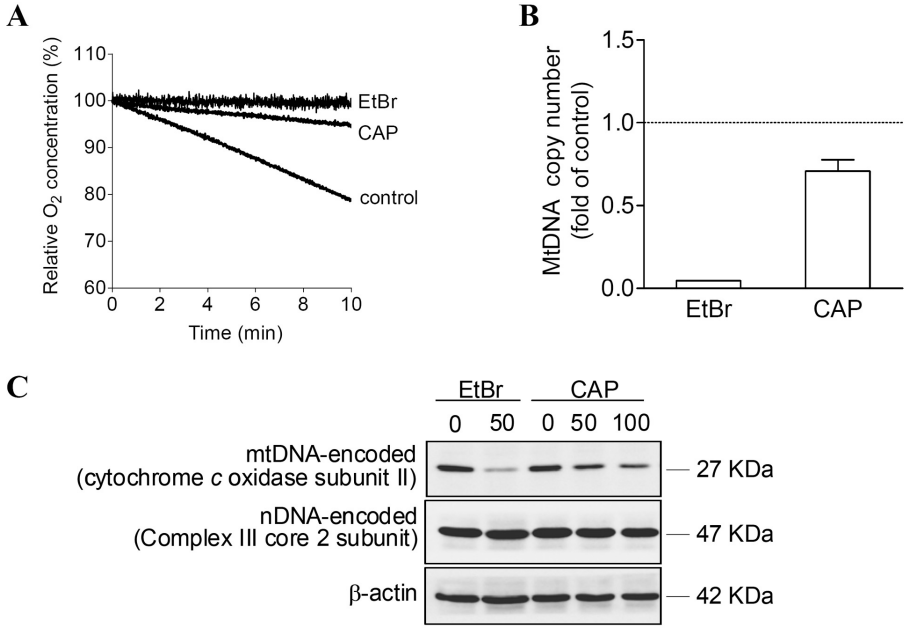
Electronic supplementary material

Supplemental Table

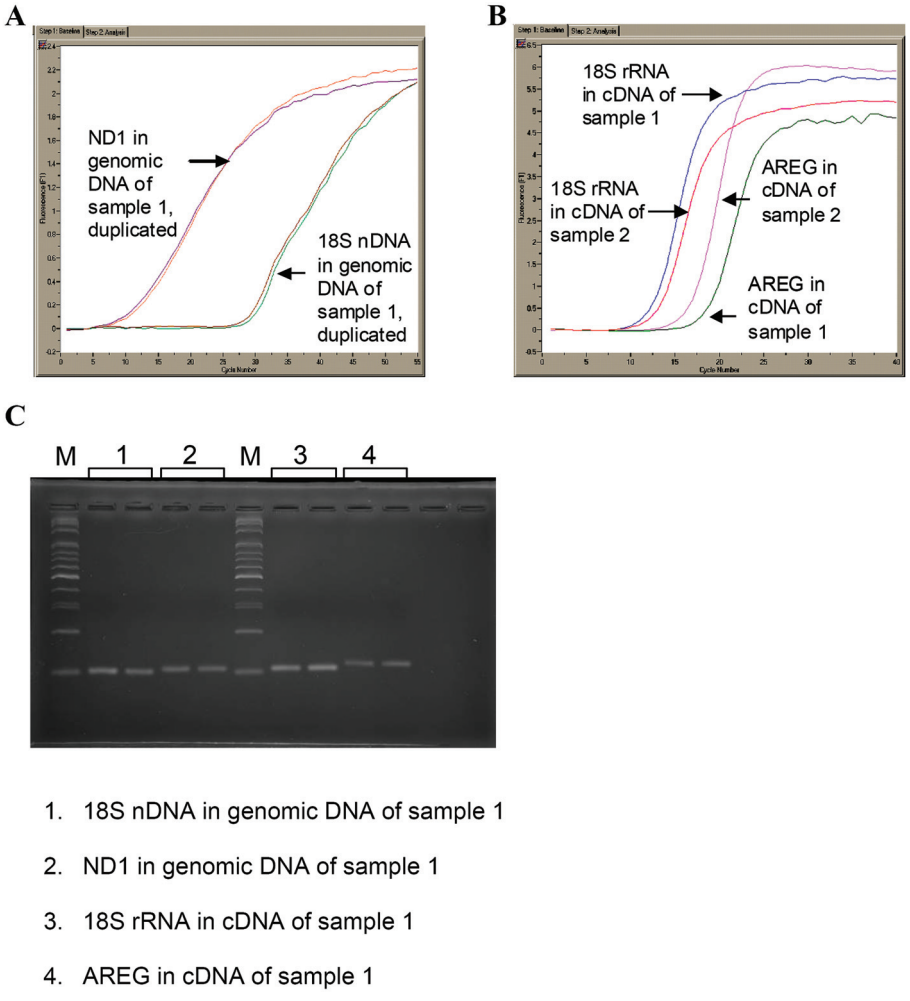
Supplemental Table. Candidate genes which were upregulated at least three-fold by EtBr- and CAP-induced mitochondrial dysfunction in HepG2 cells.

EtBr (fold of control)	CAP (fold of control)	Gene name	Gene symbol	PANTHER molecular function [50]	PANTHER biological process
11.0	20.8	Very low density lipoprotein receptor	VLDLR	Other receptor	Oogenesis
9.6	3.0	Amphiregulin	AREG	Growth factor	Ligand-mediated signaling; Cell proliferation and differentiation
8.6	4.5	Serpin peptidase inhibitor, member 2	SERPINE2	Serine protease inhibitor	Proteolysis
7.7	4.2	Leukocyte-associated Ig-like receptor 2	LAIR2	Immunoglobulin receptor family member; Defense/immunity protein	Ligand-mediated signaling; Natural killer cell mediated immunity
7.4	6.5	Early growth response 1	EGR1	KRAB box transcription factor; Nucleic acid binding	mRNA transcription regulation
5.7	3.8	Vanin 1	VNN1	Other hydrolase	Vitamin metabolism
5.5	3.4	Aquaporin 7	AQP7	Other transporter	Other transport; Other homeostasis activities
5.1	4.7	Insulin-like growth factor binding protein 1	IGFBP1	Other miscellaneous function protein	Extracellular matrix protein-mediated signaling; Growth factor homeostasis
4.5	5.4	Hexokinase domain containing 1	HKDC1	Carbohydrate kinase	Glycolysis
4.2	5.6	AXL receptor tyrosine kinase	AXL	Tyrosine protein kinase receptor; Protein kinase	Immunity and defense; Cell proliferation and differentiation; Oncogenesis
3.6	4.9	Synaptogyrin 3	SYNGR3	Membrane traffic regulatory protein	Neuronal activities

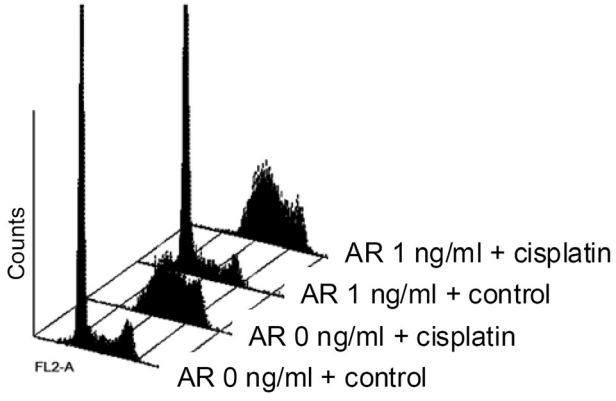
Supplemental Figures



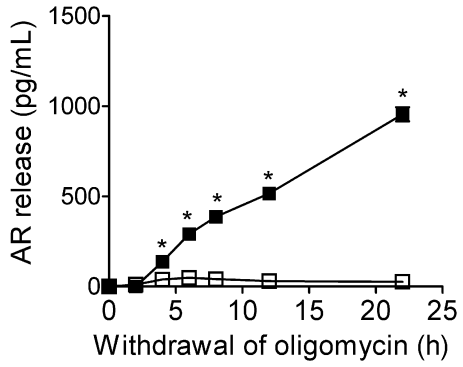
Supplemental Figure 1. Treatment of HepG2 cells with ethidium bromide (EtBr), and chloramphenicol (CAP) resulted in mitochondrial dysfunction. These treatments caused (*A*) decline in oxygen consumption, (*B*) depletion of mitochondrial DNA (mtDNA), (*C*) downregulation of mtDNA encoded cytochorome *c* oxidase subunit II, but not nuclear DNA encoded core 2 subunit of Complex III in HepG2 cells. The copy number of mtDNA was measured by ΔCt value of mitochondrial ND1/18S nDNA in genomic DNA. Data are the mean ± SEM of the results from three independent experiments.



Supplemental Figure 2. Validation of the real-time quantitative PCR in the measurement of the relative mtDNA copy number (*A*) and AR transcript in cDNA (*B*). The specificities of the ND1 and AR primers were demonstrated by RT-PCR (*C*).



Supplemental Figure 3. The addition of recombinant AR had no effect on cisplatin-sensitivity of HepG2 cells. Human recombinant AR (0 and 1 ng/ml) was added to the culture medium 1 hr before treatment of cisplatin, and the HepG2 cells were then maintained in the medium containing cisplatin (0 or 10 μM). After 36 h of incubation, the DNA content was measured by flow cytometry as described in Materials and methods.



Supplemental Figure 4. Oligomycin induced AR release in a time-dependent manner. Cells had been cultured with the medium containing 0.5 μg/mL oligomycin for 1 h, and were then washed thoroughly with a fresh medium. After incubation for indicated periods of time, AR concentration in the condition medium was measured by ELISA.