Table S1. Putative proteins (≈35 kDa) co-precipitated with LC3

Protein	NCBI Reference Sequence	Score
histone H1.2	NP_005310.1	391
histone H1.3	NP_005311.1	391
histone H1.4	NP_005312.1	391
unnamed protein product	BAG36431.1	391
liver histone H1e	ABN72276.1	391
Histone cluster 1, H1e	AAH96170.1	391
histone H1.5	NP_005313.1	330

Table S2 Putative proteins (≈11 kDa) co-precipitated with LC3

Protein	NCBI Reference Sequence	Score
unnamed protein product	CAA24918.1	306
HIST2H4B protein, partial	AAI28106.1	306
histone 1, H4c	EAW55528.1	306
histone 1, H4e	EAW55544.1	306

The nuclear fractions were isolated from GO/CDDP-treated Skov-3 cells and same amount of proteins were subjected to immunoprecipitation using anti-LC3 MAb and Dynabeads® Protein A. The immunocomplex associated with LC3 was separated by 12% SDS-PAGE and the bands (≈11 kDa and ≈35 kDa) that were apparently upregulated after the GO/CDDP treatment were cut for LC/MS/MS analysis.

Table S1 shows putative proteins (≈35 kDa) with the highest scores (>300) after LC/MS/MS analysis and suggests that the protein was presumably histone H1.

Table S2 shows putative proteins (≈11 kDa) with the highest scores (>300) after LC/MS/MS analysis and suggests that the protein was presumably histone H4.

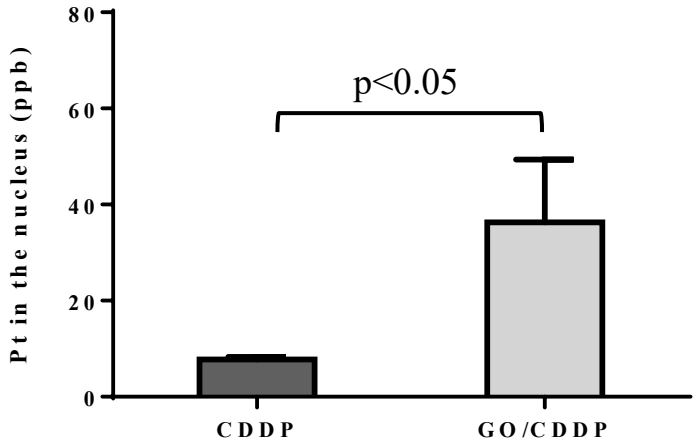

Fig. S1. To assess whether CDDP was concurrently transported into nucleus, we treated the Skov-3 cells with GO, CDDP or GO/CDDP as in Fig. 2A and separated the nuclear fractions, followed by ICP-MS analysis that detects the platinum in CDDP. As depicted in the figure, GO/CDDP triggered the nuclear import of significantly more CDDP than the CDDP group in Skov-3 cells.

Supplementary Materials and Methods

GO preparation and characterization

GO nanosheets (thickness<2 nm) with characteristic functional groups and a lateral size of ≈450 nm in mean diameter (size range≈100-800 nm) were prepared as described [1] and dispersed in deionized water. Briefly, GO with a size of ≈2.4 μm was first prepared from natural graphite by the modified Hummers method and dispersed in water. The solution was centrifuged (7,200 ×g for 5 min) to remove unexfoliated GO and byproducts and centrifuged again (400×g for 15 min) to remove broken fragments and debris. The pellet was dried under vacuum overnight, weighed on an ultra-micro balance with 0.1 μg resolution and dissolved in deionized water (≈250 μg ml^{-1}). The GO solution was tip sonicated (Misonix Sonicator 3000) in an ice bath at a power of 30 W for 1 h, filtered through a 0.45 μm syringe filter and dried under vacuum overnight. The GO was characterized by atomic force microscopy, High-resolution X-ray photoelectron spectroscopy and Fourier transform infrared spectroscopy as described [1]. The GO nanosheet was weighed, reconstituted and well-dispersed in deionized water to ≈250 μg ml^{-1}. The size distribution of GO was characterized using Dynamic Light Scattering (380 ZLS, Nicomp, USA) as described [1].

1. Chen G-Y, Yang H-J, Lu C-H, Chao Y-C, Hwang S-M, Chen C-L, et al. Simultaneous induction of autophagy and toll-like receptor signaling pathways by graphene oxide. Biomaterials. 2012; 33: 6559-69.