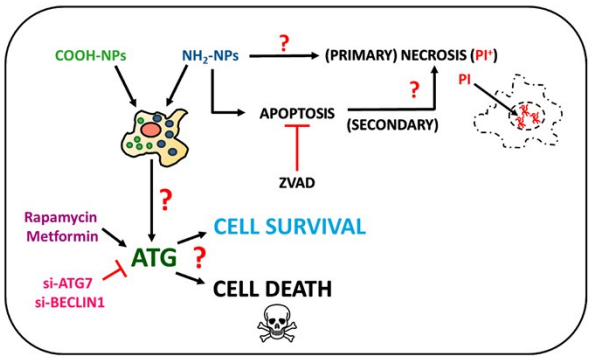
A

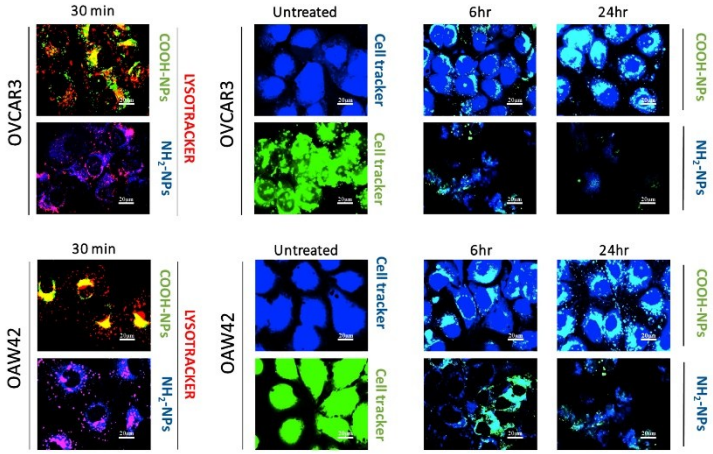
		PTEN	p53	CAV-1
	Role	*Survival and Autophagy*	*Apoptosis*	*Endocytosis*
Cell line	OVCAR3	Mutant	Mutant	No
	OAW42	Wild type	Wild type	Yes

B



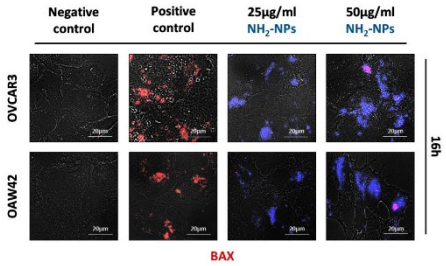
Supplementary Figure S1:

A) Table representing the different genetic background of relevant proteins involved in autophagy, cell survival, apoptosis and endocytosis processes in the experimental model. B) Schematic representation of the experimental hypothesis regarding the mechanisms through which NPs affect the cellular stress response.



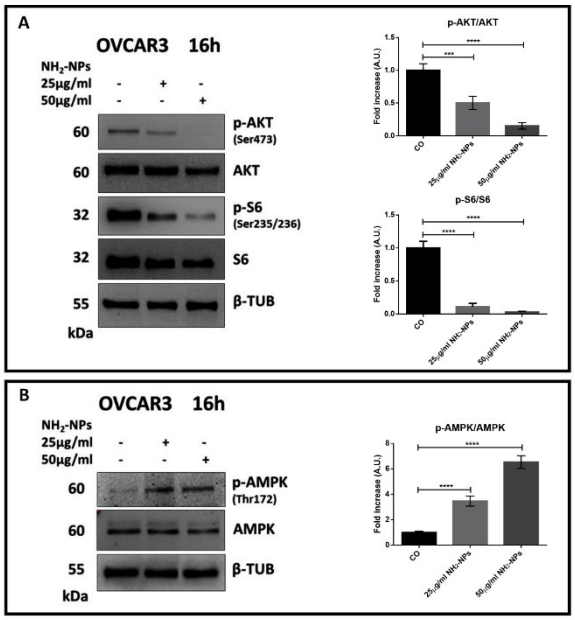
Supplementary Figure S2:

In OVCAR3 and OAW42 cells, the internalization into acidic compartments and the effects on cell viability of COOH-PS-NPs and NH_2-PS-NPs were monitored by Lysotracker and Cell Tracker staining of living cells, respectively. Cells plated on coverslips were incubated with COOH-PS-NPs or NH_2-PS-NPs for 30 minutes and stained with Lysotracker; parallel cultures were incubated for 6 or 24 hours and probed with Cell Tracker. Representative images of three separate replicates are shown.



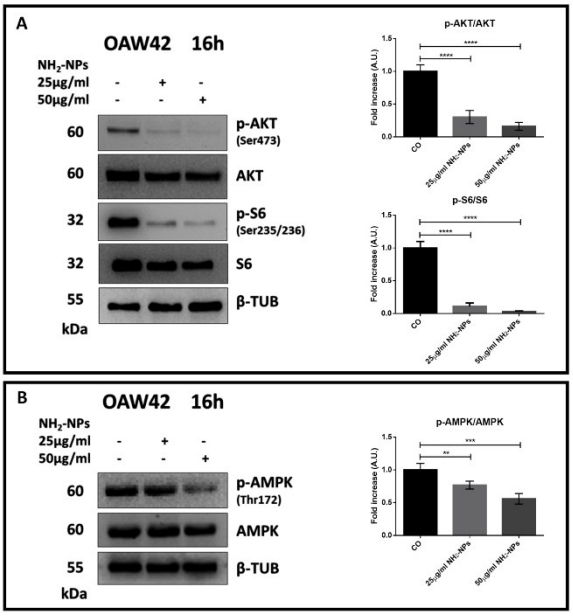
Supplementary Figure S3:

OVCAR3 and OAW42 cells were plated and let adhere on sterile coverslips and then exposed to Oxaliplatin (for 24 h) or to NH_2-PS-NPs (for 16 h) as indicated. At the end, the cells were processed for immunofluorescence staining of BAX.



Supplementary Figure S4:

OVCAR3 cells adherent on plastic dishes were (or not) exposed to NH_2-PS-NPs for 16 h, as indicated. At the end, the cell homogenates were processed for western blotting to assay the protein expression and activation of the AKT-mTOR pathway (panel A) and of the AMPK pathway (panel B). Densitometric quantification of three independent western blotting is included.



Supplementary Figure S5:

OAW42 cells adherent on plastic dishes were (or not) exposed to NH_2-PS-NPs for 16 h, as indicated. At the end, the cell homogenates were processed for western blotting to assay the protein expression and activation of the AKT-mTOR pathway (panel A) and of the AMPK pathway (panel B). Densitometric quantification of three independent western blotting is included.