Electronic Supplementary Information

Stress-induced cytotoxicity of chiral Ag nanoclusters

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Table S1. Physicochemical properties of Ag NCs

Ag NCs	Surface modification	Core diameter[a] [nm]	ζ-potential [mv]
AgNCs@L-GSH	L-GSH	≈1.5	15.8±0.3
AgNCs@D-GSH	D-GSH	≈1.5	16.1±0.4

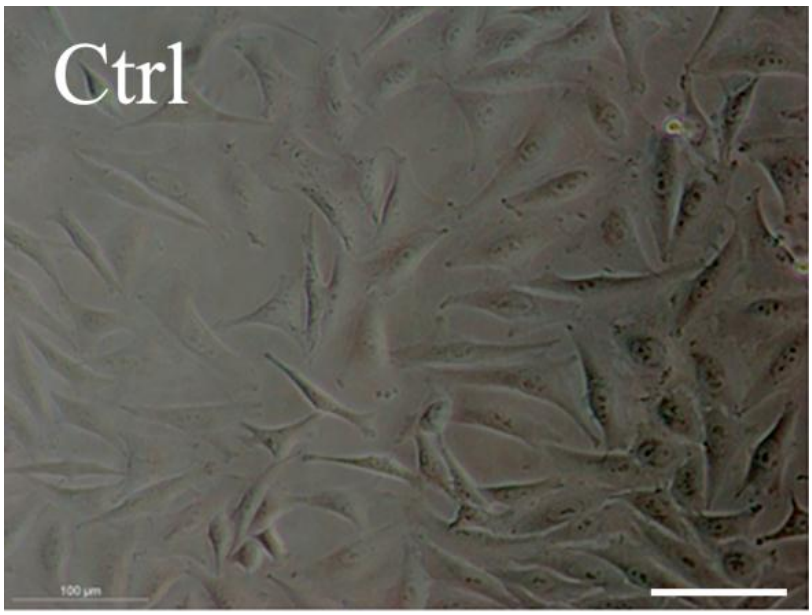

Fig. S1 Optical micrograph of MGC-803 cells without any treatment. Scale bar, 100 μm.

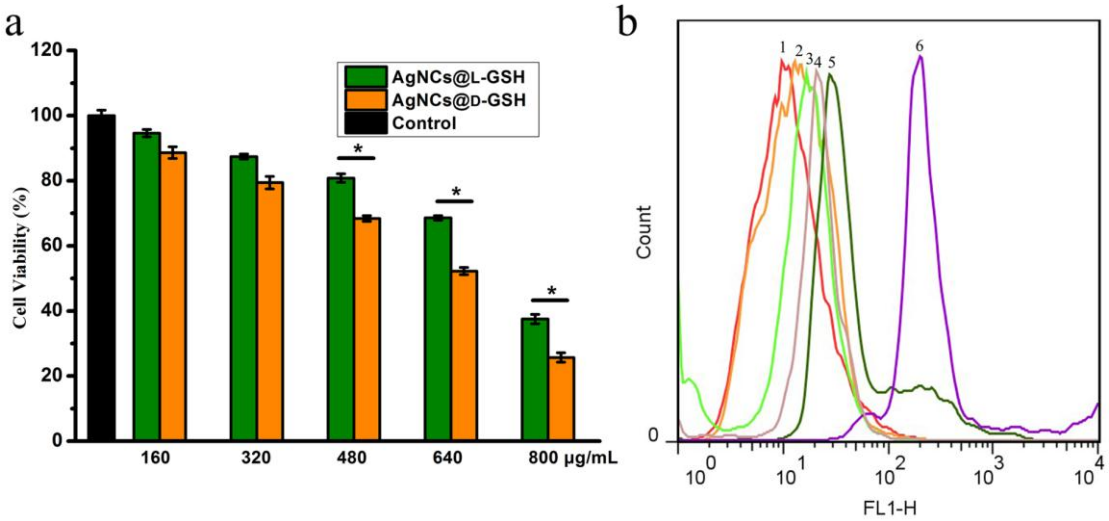

Fig. S2 Concentration- and chirality-dependent cytotoxicity of Ag NCs for GES-1 cells. (a) Cell viability of GES-1 cells treated with different concentrations of Ag NCs. (b) The intracellular generation of ROS in Ag NCs-and H_2O_2- treated GES-1 cells. 1,

Cells only; 2, 3 Cells treated with 160 and 480 μg/mL AgNCs@L-GSH; 4, 5 Cells treated with 160 and 480 μg/mL AgNCs@D-GSH; 6, Cells treated with 0.3% H_2O_2 for 0.5 h. *p<0.05, Student's t-test results at 95% confidence level were significantly different.

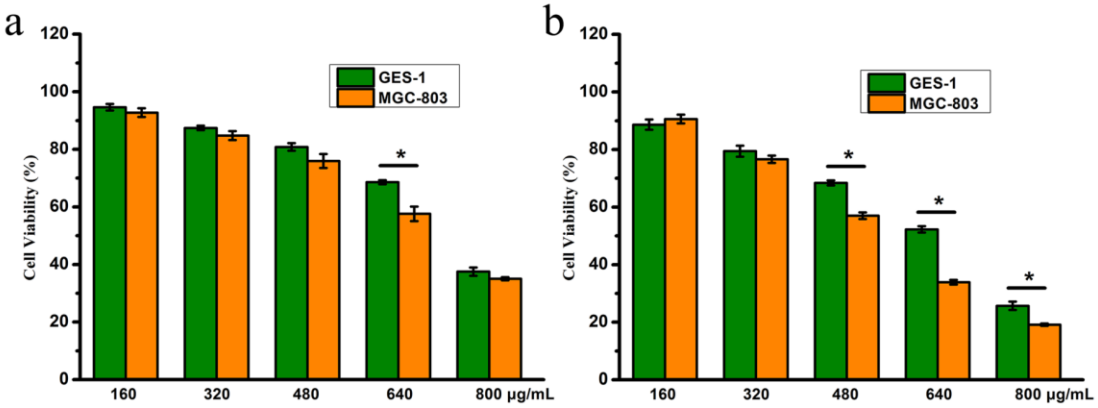

Fig. S3 Cell viability of MGC-803 and GES-1 cells after co-incubation with different concentration of (a) AgNCs@L-GSH and (b) AgNCs@D-GSH for 24 h.

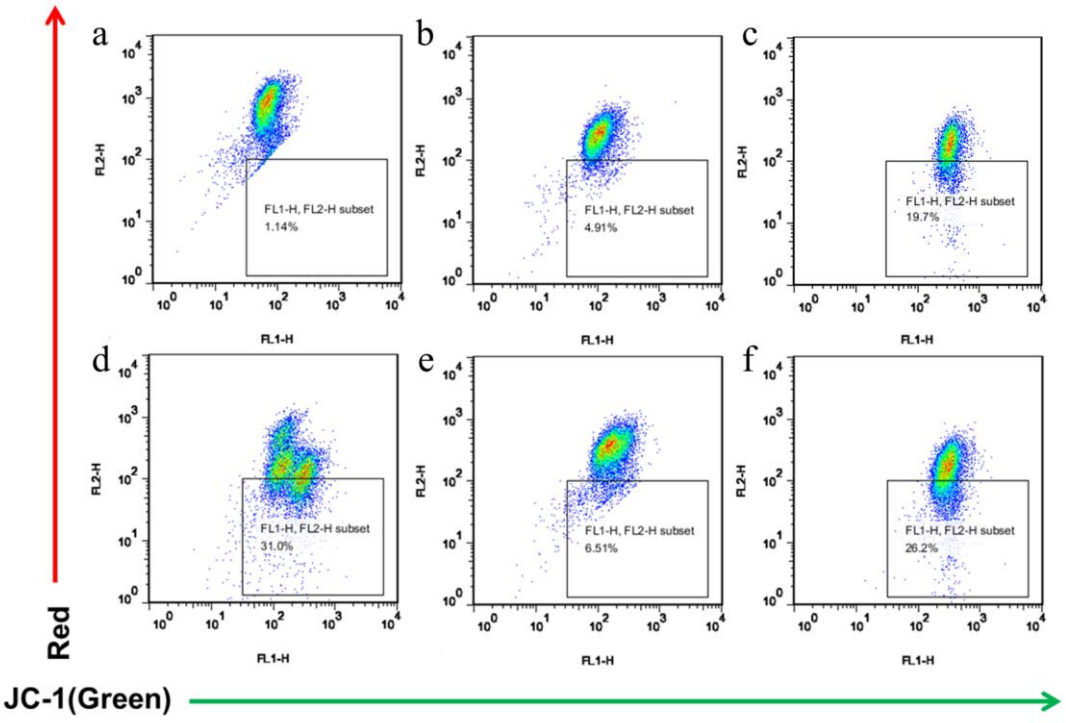

Fig. S4 Mitochondrial membrane potential detection of GES-1cells by flow cytometry. (a) Cells only, (b-c) Cells treated with 160 and 480 μg/mL AgNCs@L-GSH, (d) Cells treated with 0.3% H_2O_2 for 0.5 h, (e-f) Cells treated with 160 and 480 μg/mL AgNCs@D-GSH. The number in each dot plot represents the percentage of cells that lost ΔΨm.

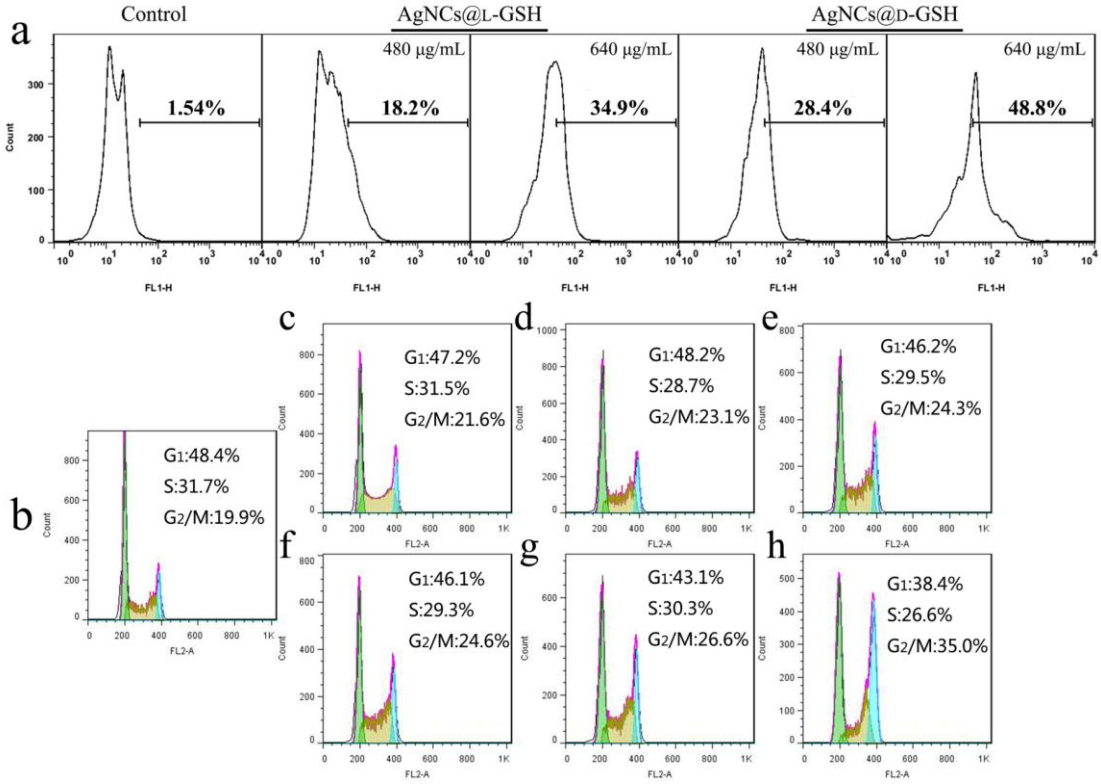

Fig. S5 Flow cytometry analysis of (a) H2AX phosphorylation and (b-h) cell cycle phase distribution in GES-1 cells treated with different concentrations of Ag NCs. (b) Cells only; (c-e) Cells treated with 160, 480 and 640 μg/mL AgNCs@L-GSH for 24 h; (f-h) Cells treated with 160, 480 and 640 μg/mL AgNCs@D-GSH for 24 h. The percentage of cells in the different cell cycle phases was plotted.

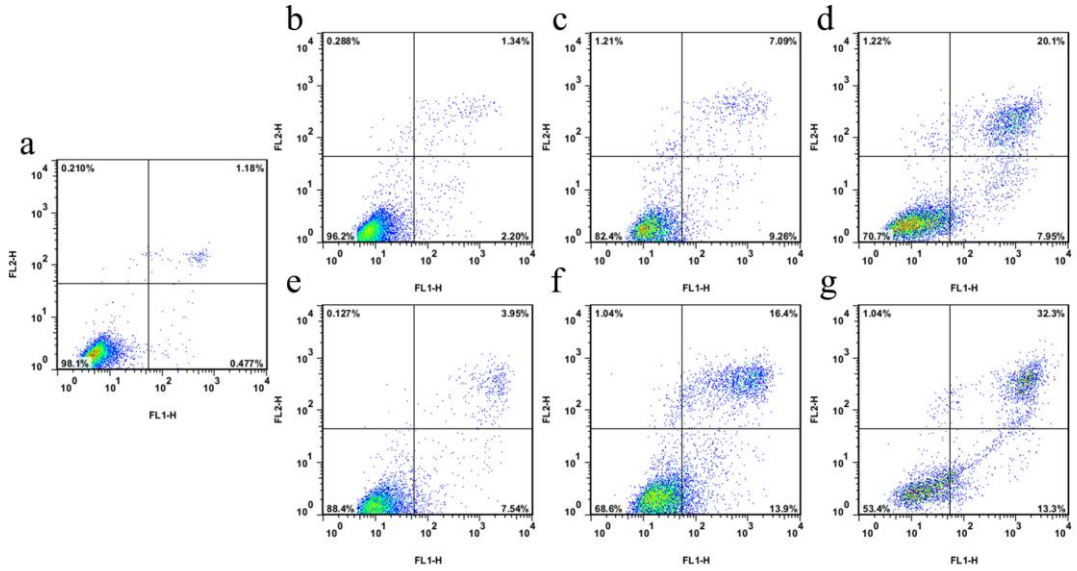

Fig. S6 Apoptosis analysis of GES-1 cells after exposure to Ag NCs for 24 h. (a) Cells only; (b-d) Cells treated with 160, 480 and 640 μg/mL AgNCs@L-GSH for 24 h; (e-g) Cells treated with 160, 480 and 640 μg/mL AgNCs@D-GSH for 24 h