Supporting Information

for

Gallium(III) complex with cloxyquin ligands induces ferroptosis in cancer cells and is a potent agent against both differentiated and tumorigenic cancer stem rhabdomyosarcoma cells

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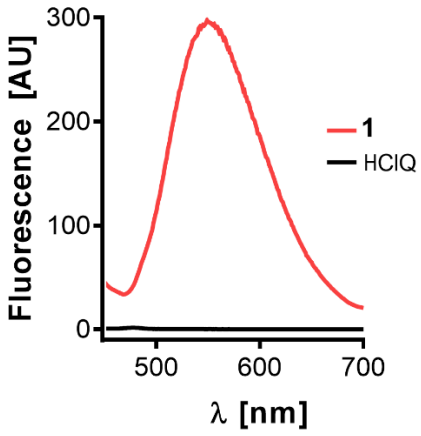

Figure S1: Emission fluorescence spectra of **1** and free cloxyquin (HClQ) at their 50 μM concentrations in Tris.Cl, pH 7.4 + 1 % DMSO; λ_{ex} = 410 nm.

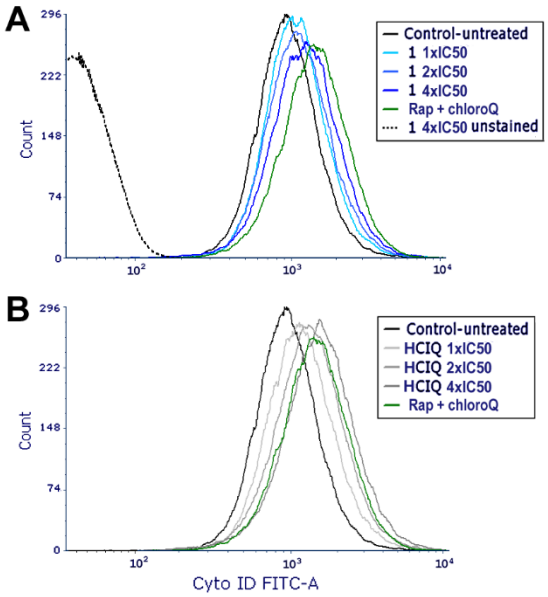

Figure S2: Flow cytometry-based profiling of autophagy in RD cells. Cells were untreated (black line) or treated with **1** (A) or cloxyquin (B) at their equitoxic concentrations corresponding to 1, 2, and 4- times the $IC_{50,72h}$ values. According to the manufacturer's recommendation, a mixture of Rapamycin (Rap, 1 μM) + Chloroquine (chloroQ, 100 μM) was included in the analyses as a positive control. After staining with CYTO-ID® Detection Reagent, cells were washed and analyzed by flow cytometry. Results are presented as histogram overlay, a representative histograms of two experiments are shown. Unstained controls were treated with **1** but not with CYTO-ID® reagent to verify that the resulting signal is not affected by the inherent fluorescence of **1**.

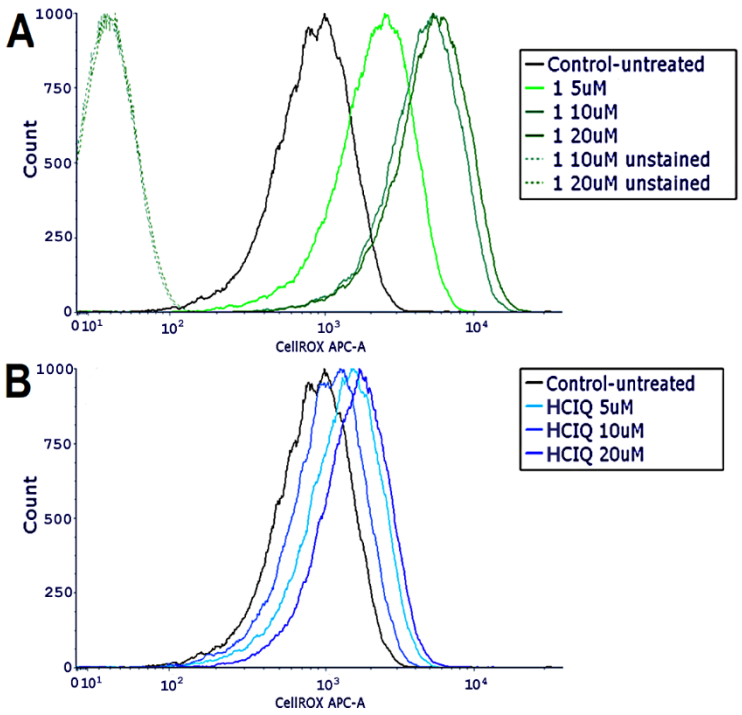

Figure S3: Detection of ROS in RD cells by flow cytometry. Cells were treated with increasing concentration of tested compounds for 3 h and subsequently stained with CellROX-deep red reagent for quantification of ROS. A) Cells treated with **1**. B) cells treated with CIQ ligand. Presented histograms are the representatives of two independent experiments. Unstained controls were treated with **1** but not with CellRox reagent to verify none fluorescent overlaps due to the inherent fluorescence of **1**.

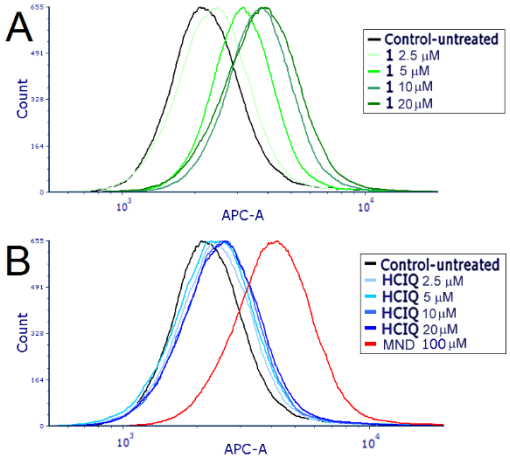

Figure S4: Representative histograms of lipid peroxidation in RD cells analyzed by flow cytometry. Cells were treated for 3 h with an increasing concentration of **1** (A) or HClQ (B). Positive control menadione (MND) was also included in the experiment (shown in panel B). Samples were stained with Bodipy^{TM} 665/676 lipid peroxidation sensor.

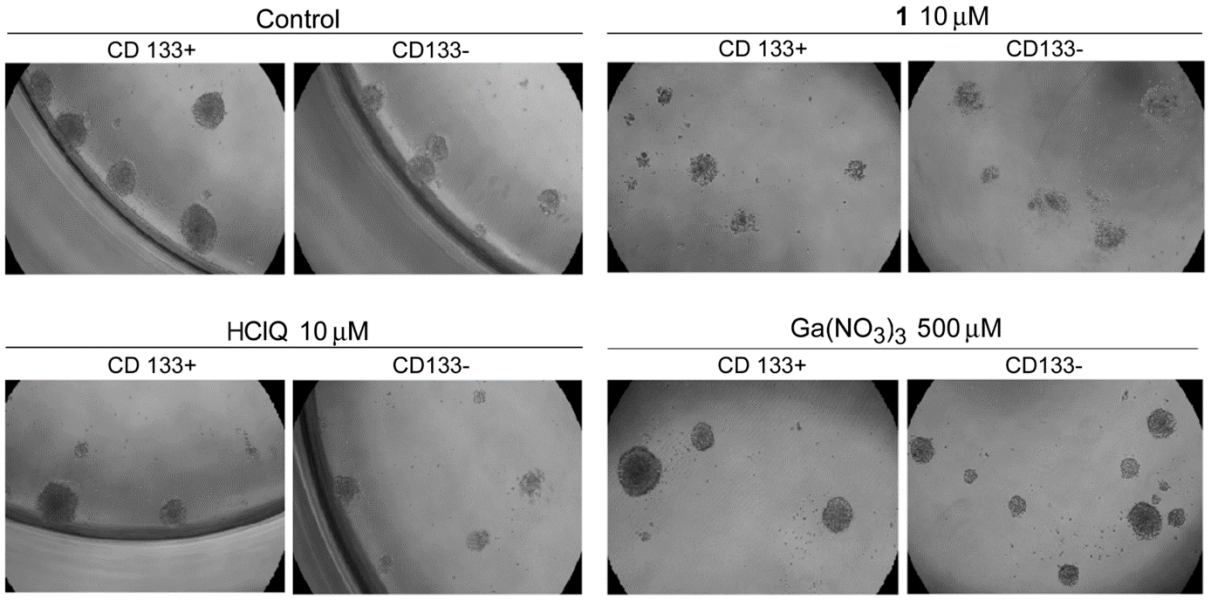

Figure S5: Representative bright-field images of the rhabdospheres formed from RD CD133+ and RD CD133- cells obtained after 72 h of the treatment with the indicated concentrations of **1** and ClQ.