

Supporting Information 1. Video file. The process of AuNR uptake by MG-63 cells.

Supporting Information 2. Video file. The photothermal effects on cell morphology with AuNR treatment after 10 min of laser exposure at 9 W/cm².

Supporting Information 3. Video file. The photothermal effects on cell morphology with AuNR treatment after 30 min of laser exposure at 9 W/cm².

Supporting Information 4. Video file. The process of photothermal effects on cell morphology in non-treated AuNR cells after 30 min of laser exposure at 32 W/cm².

Supporting Information 5. Video file. AuNR-treated cells were exposed to the laser at 9 W/cm² for 10 min followed by cyclic irradiation at 0.3 W/cm² for 3 h and rest for 3 h.

Scale bar: 10 μm.

Supporting Information 6. Video file. AuNR-treated cells were exposed to the laser at 5 W/cm² for 20 min followed by cyclic irradiation at 0.3 W/cm² for 3 h and rest for 3 h.

Scale bar: 10 μm.