

Formation of Hybrid Gold Nanoparticle–Mitochondria Complex

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Hybrid biological particle–metal nanoparticle complex shows unique combined and often synergetic physical and biochemical properties. Here, we propose the formation of hybrid gold nanoparticle–mitochondria complex via electrostatic attraction. First, we synthesize positively–charged uniform gold nanoparticles. Second, we selectively isolate mitochondria from L6 cells and combine the mitochondria with the positively–charged nanoparticles by controlling the concentration of mitochondria. The as–made gold nanoparticle–mitochondria complex is characterized by dark–field microscopy and scanning electron microscopy (SEM). Its biochemical property is also investigated.