

Movie1: Individual cell motion tracking by time-lapse videomicroscopy imaging

Untreated or Au@DTDTPA(Gd)-treated U251 cells seeded on fibronectin were observed under a $\times 20$ *magnification* objective during 24 h using the MetaMorph software (Roper Scientific). Cell velocity, distance and directional persistence were calculated with chemotaxis and migration tool ImageJ plugin. Exposition to Au@DTDTPA(Gd) leads to a fast turnover of lamellipodia in any direction, and both reduced directional displacement and reduced apparent velocity.

Movie 2: Analysis of force generation by U251 cells using Traction Force Microscopy

Video TFM analysis of single cells with the force represented as magnitude (upper panels) and vectors (lower panels) of control (left) and Au@DTDTPA(Gd) nanoparticles uptaken (right) cells superimposed with the cell segmentation used for the force integration.