Functionalized nanomaterials: are they effective to perform gene delivery to difficult-to-transfect cells with no cytotoxic?

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Electronic supplementary materials

Figure S1: Energy dispersive X-ray (EDX) spectrum of fMWCNTs.

Figure S2: Energy dispersive X-ray (EDX) spectrum of NRs.

Figure S3: Energy dispersive X-ray (EDX) spectrum of NDs.

Figure S4: Energy dispersive X-ray (EDX) spectrum of NGOs.
Figure S5: Energy dispersive X-ray (EDX) spectrum of NPCs.

Cell culture

Cardiomyocytes were obtained from rats and cultivated as previously described. Briefly, in the primary culture cardiac cells were plated in dishes using M199 medium supplemented with: 100 units/ml penicillin, 100μg/ml streptomycin, 10% Fetal Bovine Serum, 2 mmol/L L-glutamine, and 20 μg/mL cytosine-D-arabinofuranoside (ARA-c) (to prevent growth of fibroblasts). After 48 hours, neonatal cardiomyocytes were exposed to the nanomaterials, with and without DNA.

DRG neurons were also obtained and cultivated as previously described. Briefly, cells were obtained from animals lumbar segments using enzymatic procedure. Then they were washed in Dulbecco’s Modified Eagle’s Medium (DMEM) (Sigma) supplemented with 10% Fetal Bovine Serum and 1% penicillin (Cultilab), and platted in dishes pre-treated with poly-D-lysine 0.1% (Sigma). After 24 hours, cells were exposed to the samples containing nanomaterials or Lipofectamine (with or without DNA).

Lineage C6 cells (ATTC CCL-107) were cultivated in T-75 bottles until 90% of confluence was achieved, and then the cells were replated in dishes using DMEM high glucose (Gibco) supplemented with 10% Fetal Bovine Serum,(Gibco), 2,5UI/mL of penicillin, 2,5μg/mL de streptomycin and 5μg/mL of gentamicin.

Lineage U373 cells were cultivated as same as C6 cells. In T-75 bottles until 90% of confluence was achieved, and then were replated in dishes using DMEM high glucose (Gibco) supplemented with 10% Fetal Bovine Serum,(Gibco), 2,5UI/mL of penicillin, 2,5μg/mL de streptomycin and 5μg/mL of gentamicin.

Reference List
