Electronic Supplementary Material (ESI) for RSC Advances.
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Electronic supplementary materials

The comparisons presented on the communication's text were performed at the optimal conditions. Different concentrations of gene delivery vehicles, and different electroporation parameters were tested.

Life Technologies indicates the use of 10µL of the reagent to the amount of DNA used. We also tried other values such as 15µL in order to try to improve the fluorescence observed. Nevertheless, a higher rate of cell death was observed without improvement in fluorescence. At lower values, such as 5µL, no fluorescence was detected at the microscope. The equipment used allows chances in the voltage of electroporation. So we also tested voltages higher and lower than 225V. An increase in voltage induces more cell death. However, neither the increase nor the decrease of voltage offered better results of AmCyan protein's expression. Concentrations of MWCNTs higher and lower than the one presented on the paper were also tested. Higher concentrations improved cell death rate, and lower concentration decreased the fluorescence.

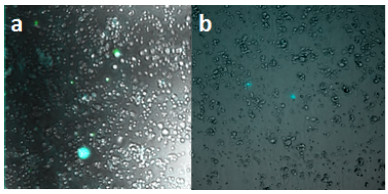


Figure S1 - Fluorescence microscopy images of SSCs culture; **a.** Lipofectamine 2000® 10µL + DNA 20nM. **b.** Lipofectamine 2000® 15µL + DNA 20nM.

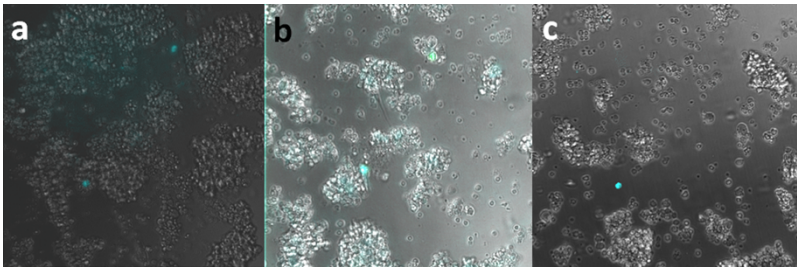
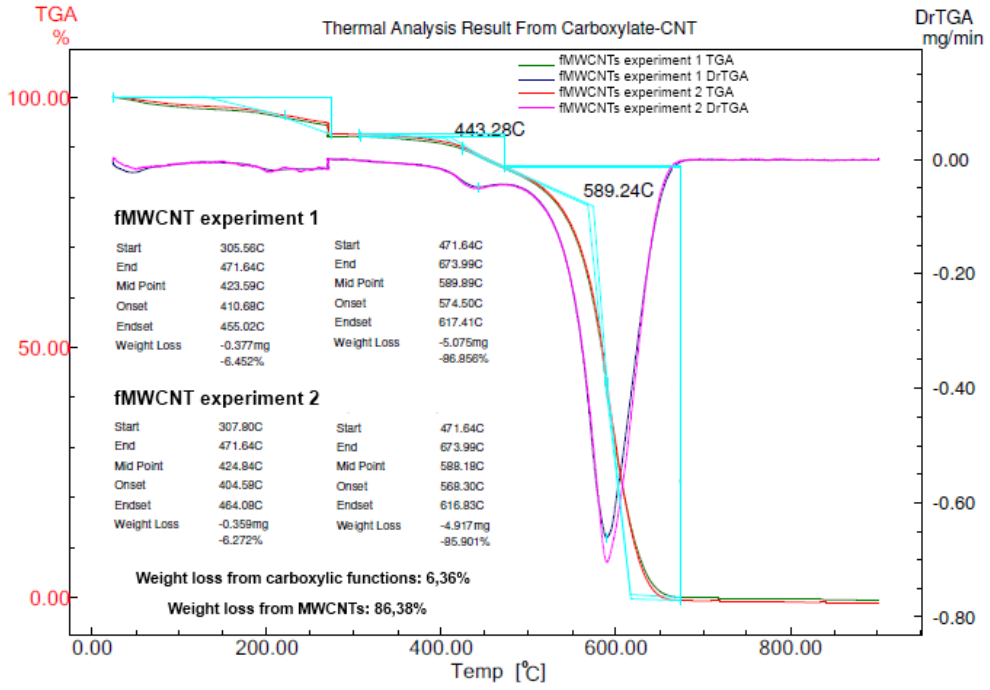


Figure S2 - Fluorescence microscopy images of SSCs culture; **a.** electroporation 200V + DNA 20nM; **b.** electroporation 225V + DNA 20nM; **c.** electroporation 250V + DNA 20nM.

We performed, in duplicate, a thermal analysis of the material (fMWCNTs) and the weight loss related to carboxylic function were 6,36%. The thermogravimetry data can be found in the thermogram above.



We are not able to estimate loading of DNA for all techniques. As Lipofectamine 2000® is a well established commercial reagent to gene delivery, data related to this vehicle is available. The loading capacity of Lipofectamine 2000® is about 90%. To other techniques, there is the limitation of equipment capable of detecting a possible small amount of DNA: unbound to the nanotubes or not entering the cell through pores generated by electroporation.