## **Supplementary Information**

## Integrated Biomimetic Carbon Nanotube Composites for In Vivo

## Systems

Manoj Kumar Singh<sup>\*</sup>, Jose Gracio<sup>a</sup>, Philip LeDuc<sup>b</sup>, Paula Gonçalves<sup>c</sup>, Paula Marques<sup>a</sup>,

Gil Gonçalves<sup>*a*</sup>, Filipa Marques<sup>*c*</sup>, Virgilia Silva<sup>*c*</sup>, Fernando Capela e Silva<sup>*d*</sup>, Joana Reis<sup>*e*</sup>,

José Potes<sup>e</sup> and António Sousa<sup>a</sup>

<sup>a</sup>Nanotechnology Research Division, Center for Mechanical Technology & Automation, University of Aveiro, 3810-193 Aveiro, Portugal

<sup>b</sup>Carnegie Mellon University, Department of Mechanical Engineering, 415 Scaife Hall, 5000 Forbes Avenue, Pittsburgh, PA 15213, USA

<sup>c</sup>CESAM, Center for Environmental and Marine Studies, Department of Biology, University of Aveiro, 3810-193 Aveiro, Portugal

<sup>d</sup>Institute for Agrarian and Environmental Sciences, Department of Biology, University of Évora, 7002-554 Évora, Portugal

<sup>e</sup>Research Centre for Health Technologies and Sciences, Department of Veterinary Medicine, University of Évora, 7002-554 Évora, Portugal



Figure S1: Optical image of three holes drilled in tibial bone of a sheep before implantation.

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**Figure S2:** MG 63 cell survival and proliferation after plating on 12-well polystyrene culture plates measured with a MTT assay. MTT cleavage by mitochondrial dehydrogenases of viable cells was spectrophotometrically measured at a wavelength of 570 nm and the background absorbance at 690 nm was subtracted. Beyond an increase in cell number resulting in a concomitant enhancement in absorbance values at 570 nm (inset), a decrease of MTT reduction values normalized by viable cell number was observed as the cell cultures aged from day 1 to day 5. The data points shown on each plot represent the mean  $\pm$  S.E. for 6 (main panel) and 2 (inset) independent MTT assays, while cell density values (mean  $\pm$  S.E.) for each experimental condition were analyzed in the 50 images as described in the Material and Methods.