Supplementary Information

TABLE OF CONTENTS

Figure S1. The XPS data of ITO/GO/SiNPs/Gold.
Figure S2. Raman spectroscopy spectra of each sample.
Figure S3. Fluorescence images of hADSCs grown on different substrates.
Figure S4. Optical microscopic images of hADSCs with growth medium.

![XPS data](image1)

**Figure S1.** The XPS data of ITO/GO/SiNPs/GNPs.

![Raman spectra](image2)

**Figure S2.** Raman spectroscopy spectra of each sample.
Figure S3. Fluorescence images of hADSCs grown on different substrates. F-Actin (red) and nucleus (blue) double-stained fluorescence images of hADSCs that were cultured on four different substrates. Images were used as source for cell growth and spreading analysis (Figure 4). (Scale bars = 200µm).

Figure S4. Optical microscopic images of hADSCs with growth medium. Confirmation of differentiation of hADSC growth on 3D nanoislands were revealed for 4 weeks. (Scale bar = 200µm).