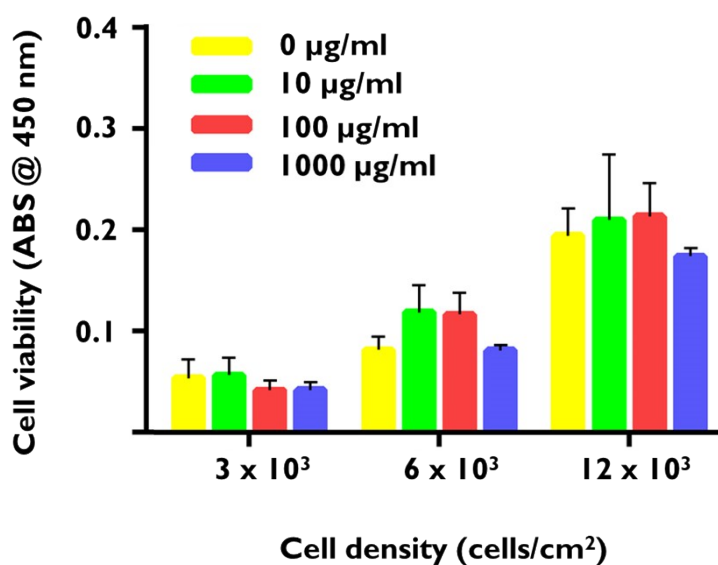
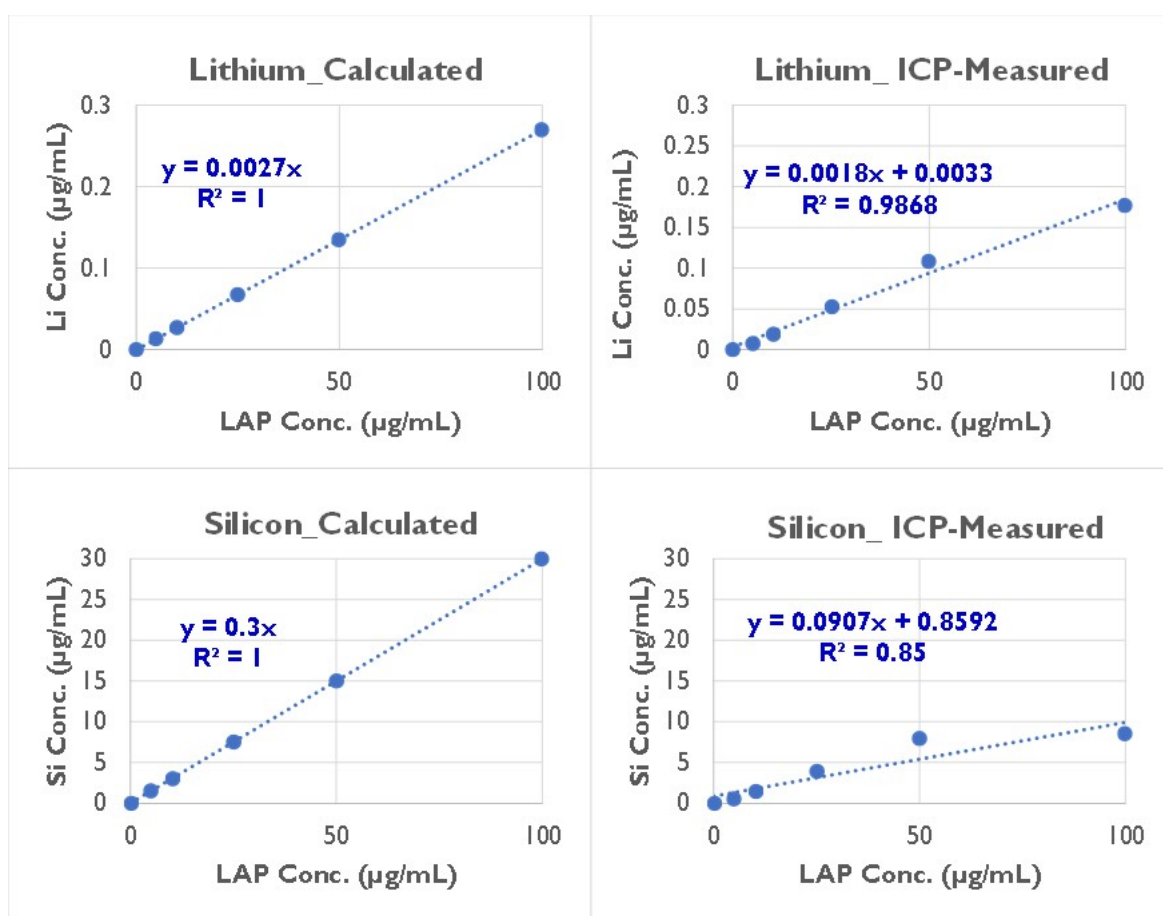


SUPPLEMENTARY



**Figure S1: Laponite nanoparticles do not interfere in the WST1 absorbance readout at 450nm.** Cells were incubated at 37C for 24 hours then Laponite was added directly to cell media supernatants prior to absorbance measurement at 450 nm.

<i>Clay Conc. (<math>\mu\text{g/mL}</math>)</i>	<i>Calculated Conc. (<math>\mu\text{g/mL}</math>)</i>		<i>Measured Conc. (<math>\mu\text{g/mL}</math>)</i>	
	<i>Li</i>	<i>Si</i>	<i>Li</i>	<i>Si</i>
<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>5</i>	<i>0.0135</i>	<i>1.5</i>	<i>0.007714</i>	<i>0.551</i>
<i>10</i>	<i>0.027</i>	<i>3</i>	<i>0.018824</i>	<i>1.448</i>
<i>25</i>	<i>0.0675</i>	<i>7.5</i>	<i>0.052762</i>	<i>3.9215</i>
<i>50</i>	<i>0.135</i>	<i>15</i>	<i>0.1083</i>	<i>7.942</i>
<i>100</i>	<i>0.27</i>	<i>30</i>	<i>0.17712</i>	<i>8.528</i>



**Figure S2: Silicon vs Lithium as a biomarker element for LAPONITE quantification by ICPMS.** (A) table comparing theoretical vs measured Si & Li concentrations corresponding to LAPONITE doses 0-100  $\mu\text{g/mL}$ . (B) Lithium showed a higher degree of correlation and ICP-measured values close to the expected/theoretical ones.

Refer to separate video file

**Figure S3: Laponite nanoparticles are endocytosed by hBMSCs as confirmed by cell mask deep red stain.** Cells were incubated with RB-labelled Laponite for 24 hours then imaged with confocal microscopy using DAPI (blue channel) and cell mask deep red (red channel) for visualising nucleus and cell membrane respectively.