Supporting Information

A once-a-day dosage form for the delivery of insulin through the nasal route: *in vitro* assessment and *in vivo* evaluation

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The Transwell© inserts used for the transport studies were also used for CLSM visualisation. Following the transport study, the monolayers were rinsed apically and basolaterally with sterile PBS, and a solution of propidium iodide (30 µg/mL, in Media 199) was applied apically for 3 min. The solution was then removed, and the support filter cut from the plastic insert and placed between two glass coverslips. The cells were visualised using a Zeiss LSM 510 Meta (Germany) instrument, with propidium iodide excitation at 514 nm. Cells that had been free from dye were decreed viable; an image of damaged cells (incubated with 0.1 % SDS for 2 h) was used as viability comparator. All experiments were carried out in triplicate.

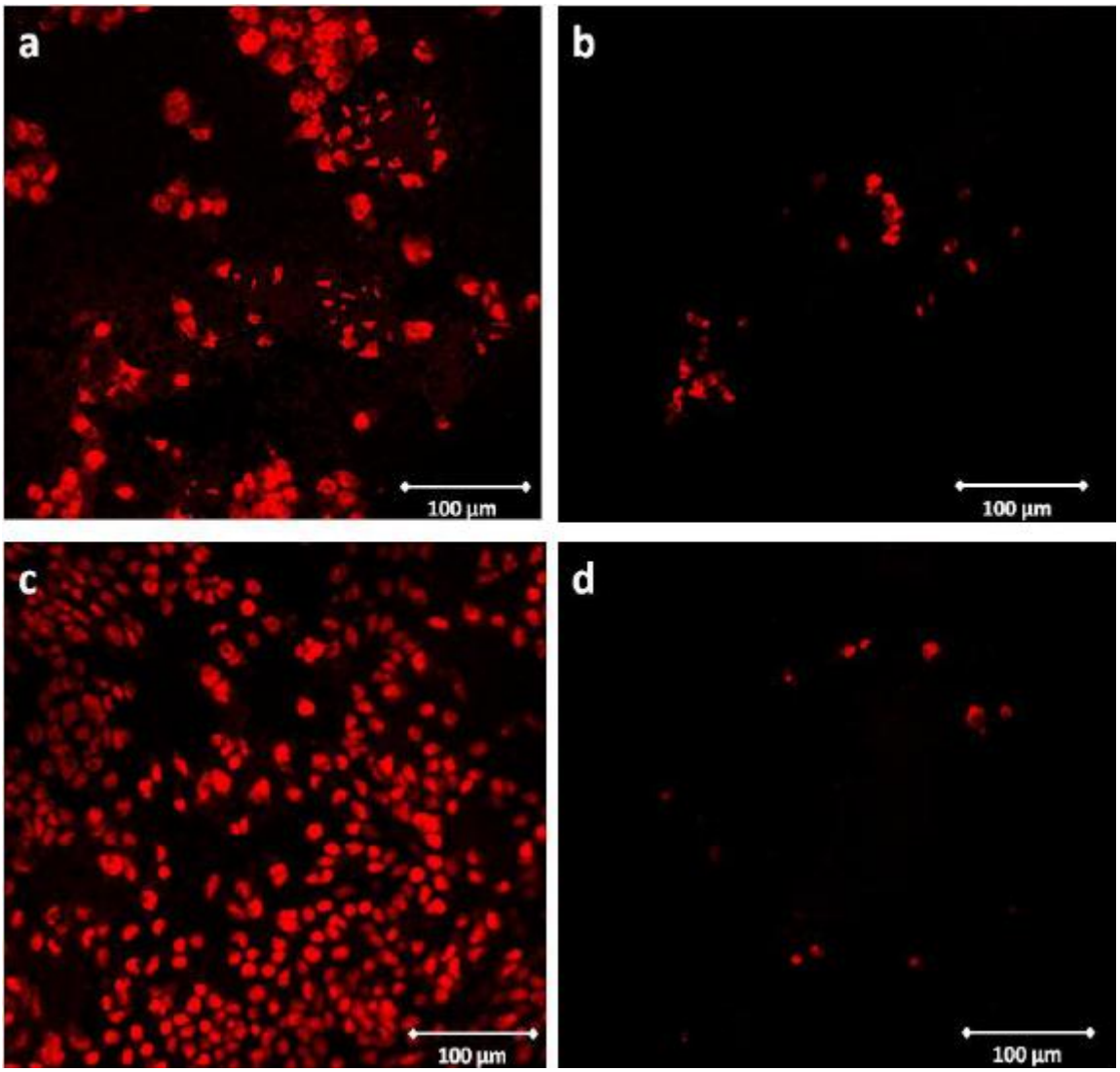

Fig. 6s. CLSM images of Calu-3 cells treated with (a) 3.6 % w/v TMC solution, (b) TMC-PEG-GP hydrogel, (c) 0.1 % SDS solution and (d) Media 199.

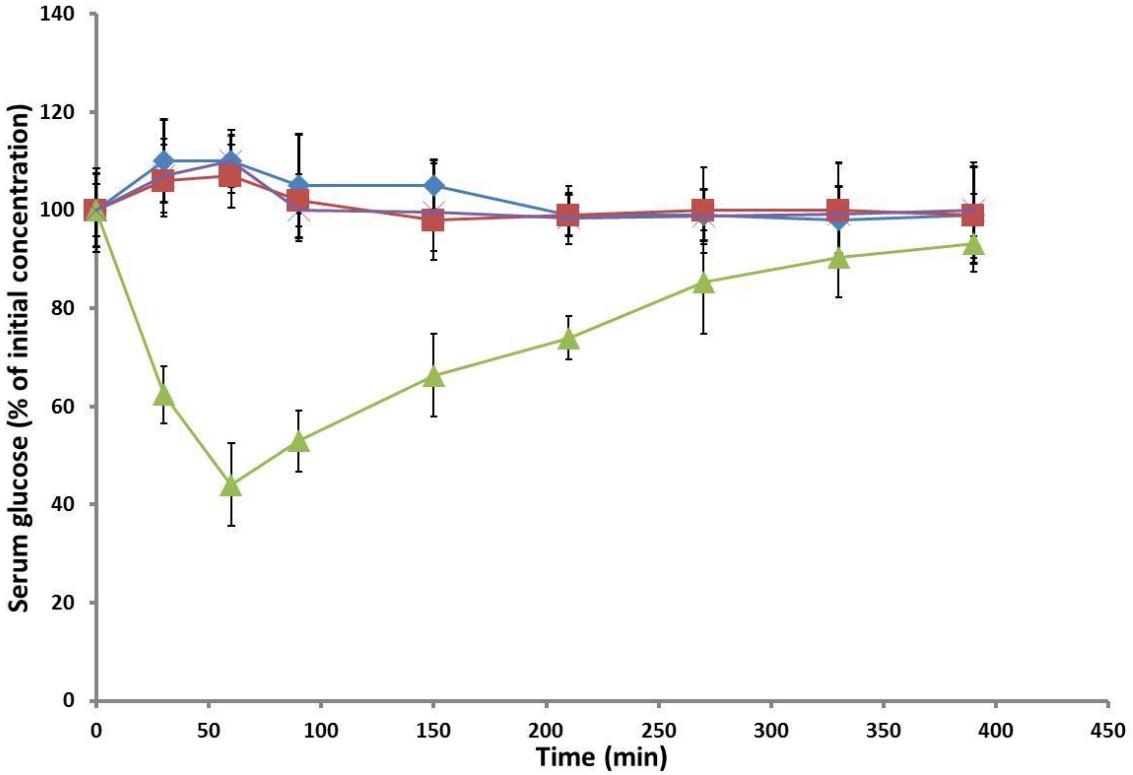

Figure 7s. Serum glucose levels in rats monitored over 6 hours following administration of: (■) TMC solution; (X) insulin solution; (◆) hydrogel, and (▲) insulin subcutaneous injection. Mean ± SD, n=5.