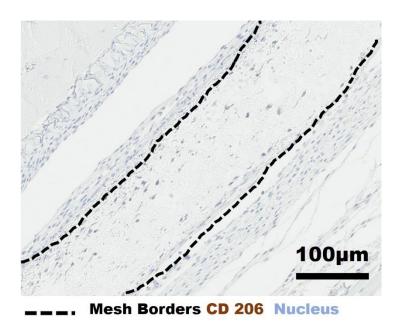
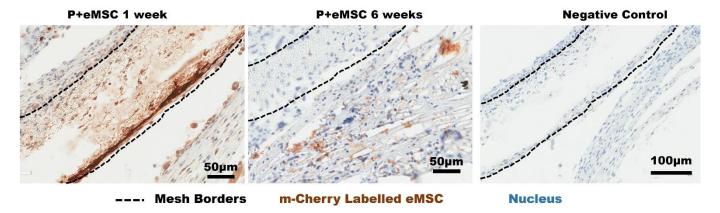
## **SUPPLEMENTARY DATA**

## Height Sensor Scale 25.8nm 2 2 µm 516nm

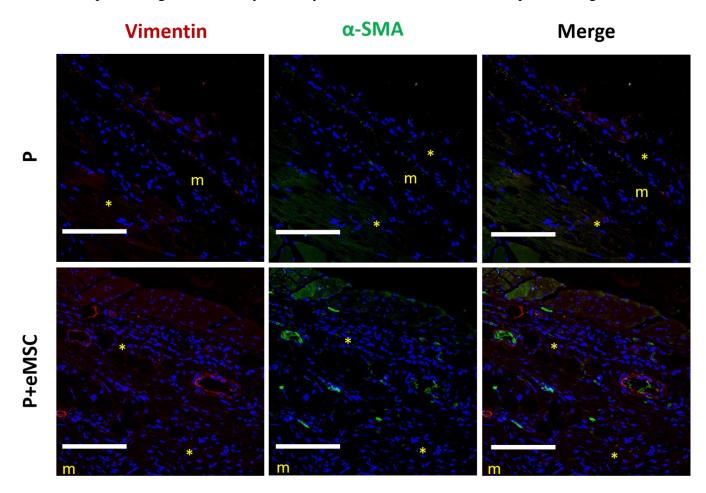
**Figure S1:** Atomic force Microscopy of human vaginal tissue showing height sensor scale corresponding to Fig 1E.



**Figure S2:** Negative control for immunohistochemical staining of CD206 of mice tissue with nanomesh implant



**Figure S3:** Immunohistochemically stained m-Cherry lentivirus labelled eMSCs in mice tissue with P nanomesh implant using anti m-Cherry antibody after 1 week and 6 weeks compared to negative control.



**Figure S4:** Immunofluorescence to characterize cells in mice tissues (\*) around nanomesh implants (m) after 6 weeks using vimentin and alpha smooth muscle actin (scale bar=  $100\mu m$ ).