



Featuring work from the Bio- μ -Nano Research Laboratory of Professor Tuhin Subhra Santra, Department of Engineering Design, Indian Institute of Technology Madras, India.

Metallic micro-ring device for highly efficient large cargo delivery in mammalian cells using infrared light pulses

We reported a titanium micro-ring device (TMR) for massively parallel, highly efficient large cargo delivery in mammalian cells with high transfection efficiency and cell viability using infrared light pulses. Upon infrared light irradiation on the TMR device, photothermal cavitation bubbles are generated, disrupting the cell plasma membrane, and biomolecules are gently delivered into the cells. We successfully deliver dyes, dextran, siRNA, EGFP, and enzyme into human cervical, mouse fibroblast, and mouse neural cancer cells. Our device is compact, easy to use, and potentially applicable for cellular diagnostic and therapeutic purposes. Copyright holder: Dr Srabani Kar.

As featured in:



See Tuhin Subhra Santra *et al.*,
Lab Chip, 2023, **23**, 2175.