

Optimization Procedure for Treating Suspended Cells with Nanoshuttle.

Step 1. 50 mm tissue culture petri dish is filled with 3 ml of media.

Step 2. Cells suspended in media then added to the petri dish with a Nanoshuttle at concentration of $1\mu\text{L}/10^4$ cells (this amount could vary depending on the cell type and size).

Step 3. The cells and nanoparticle mixture were then incubated at 37°C for 30 minutes under constant agitation on an orbital shaker at 80 RPM.

Step 4. Nanoparticle loaded cell suspensions were subsequently centrifuged at 1000 rpm for 1 minute and the pellets were re-suspended to a concentration of 2.5×10^6 cells/mL in CM.

Step 5. Nanoparticle treated cell suspensions were distributed in ultra lo-bind microwell culture plates (Corning Inc., Tewksbury, MA) at the desired cell density. Then magnet driver is immediately placed under the multiwell plate.