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Cline Nano Surfaces & Cline Nano Gradients

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The Guide

How to handle & modify the
Cline Nano Surface & Cline Nano Gradient

Lenght of protocol: 3h + Over night

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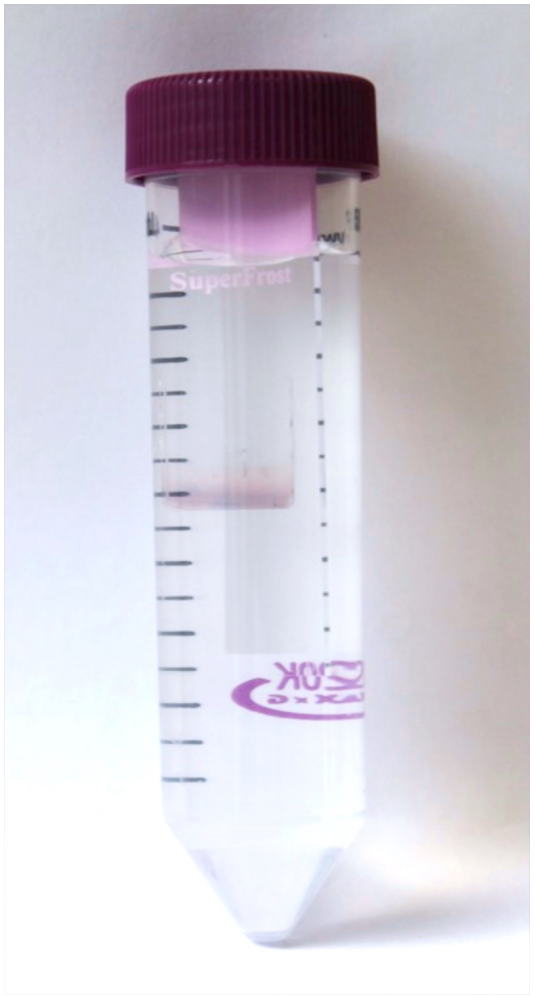

The Container

The Cline Nano Surface or Cline Nano Gradient is shipped in a water filled tube.

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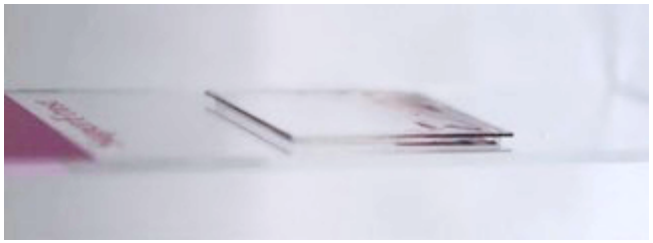
Step 1

The Cline Nano Surface or Cline Nano Gradient is attached to a microscope slide with a small silicone cushion

Make sure that the surface of the glass pointing outwards from the cushion, called up, is wet and untouched at all times.



➡ Carefully turn the tube while inspecting the surface to make sure which side is up!

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Step 2

- Open the lid
- Firmly grip the microscope slide by its end
- Gently squeeze the tube to release the slide

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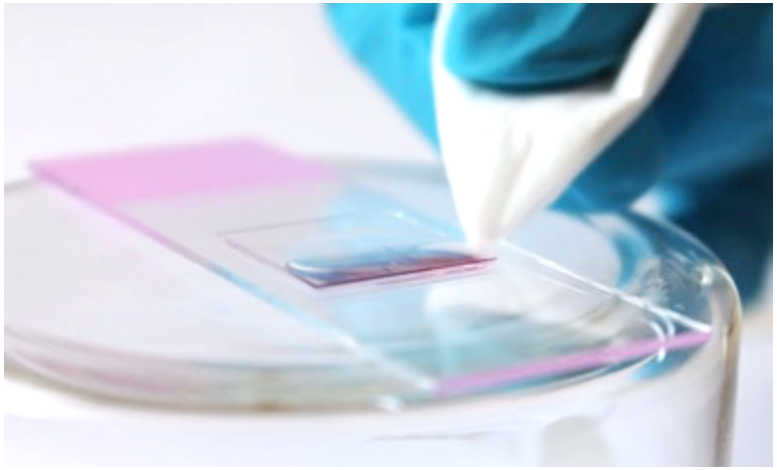
Step 3

- Place the microscope slide on a flat clean surface (preferably inside a laminar flow hood)

- Carefully remove excess liquid without touching the surface, directly before adding solutions (see step 4-7)

OBS: It is imperative that the surface never dries out!



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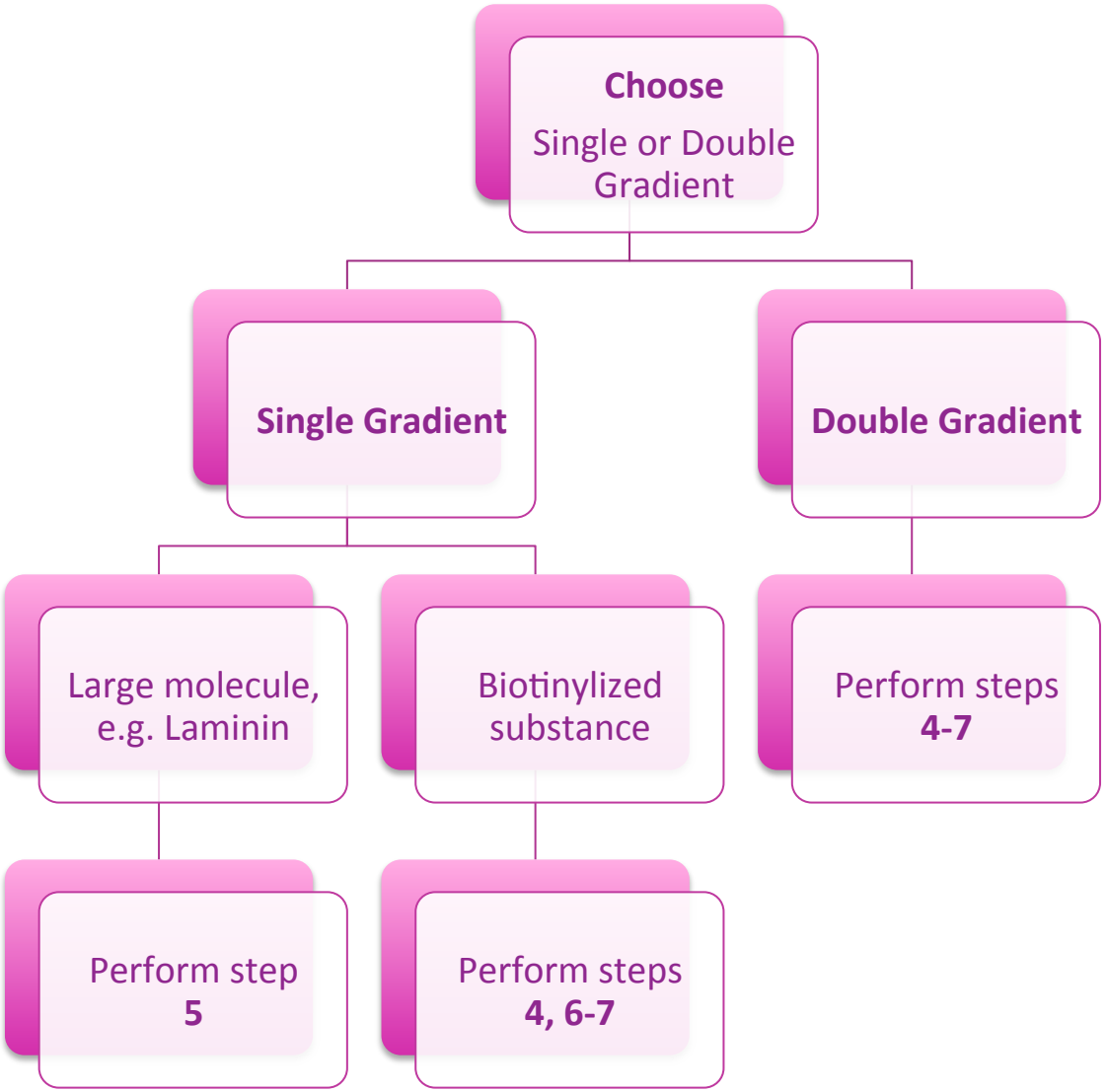
Instructions for Step 4-7



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Step 4

Preparing the nanoparticle gradient

- Add 540ul water to Vial 1 (Linker 1)
  (enough for 2 surfaces)
- Dropwize place ca. 300ul of Linker 1 on the surface
- Incubate for 30 min in room temp
- Slowly rinse with water

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Step 5

Modifying space between nanoparticles – gradient of e.g. Laminin

- Dropwize place ca. 300ul of e.g. Laminin (20uM in PBS) on the surface. Incubate for 1.5 h in room temp.
- Slowly rinse with PBS.

Tip: Protect the incubation from contamination and evaporation by covering the surfaces with a lid or a closed environment

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Step 6

Adding a linker on the nanoparticles

- Dissolve the contents of Vial 2 (Linker 2) in 1.98ml PBS (enough for ca. 6 surfaces)
- Dropwize place ca. 300ul Linker 2 on the surface
- Incubate for 20 min in room temp
- Slowly rinse with PBS.

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Step 7

Adding biotinylated substance – Gradient of biotinylated substance on nanoparticles

- Biotinylate your biomolecule
- Dropwize place ca. 300ul biotinylated substance (40uM in PBS) on the surface
- Incubate in the fridge over night
- Slowly rinse with PBS

The surface is now ready for use!

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Optional Step

Removing and transferring the Cline Nano Surface or Cline Nano Gradient

- Carefully grab the glass surface in one un-colored corner.
- Gently pull the glass surface on the silicone cushion upwards slowly to release it from the microscope slide
- If necessary; use a second pair of tweezers to remove the cushion from the back of the glass
- Keep track of which side of the glass surface is up!
- Place the surface in your cell culture well (with or without silicone cushion)

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