

### **Streptavidin coated cover slips.**

Step I: Derivatize the glass with amine groups (based on Ref 1).

Substrate cleaning: Immerse coverslips in 2% (w/v) SDS solution in Millipore water (mH<sub>2</sub>O) and soak overnight. Rinse with mH<sub>2</sub>O, blow dry with nitrogen and plasma clean for 10 min to remove traces of organic contaminants. Cleaned substrates should be immediately used in the surface activation step.

Surface activation: Surface activation is important to generate -OH groups and avoid an increase of substrate roughness. The most effective method that does not increase surface roughness involves the use of a mixture of CH<sub>3</sub>OH/HCl (1:1) at room temperature [Ref 2]. Immediately after plasma cleaning immerse the cover slips in a freshly prepared solution of CH<sub>3</sub>OH/HCl (1:1) mixture for 30 min at room temperature.

Substrate functionalization: Thoroughly wash cover slips with methanol and immerse for 5 min in ethanol in a glass petri dish. Remove from the ethanol and immerse in a 5% (V/V) APTES/ethanol solution for 20 min at RT.

Step II Streptavidin coating.

Pipette a solution containing 1mg/ml of streptavidin in 150 mM Tris buffer at pH7.5 on to the cover slip surface and leave in a humidified chamber for one hour at RT.

1. Miranda A, Martínez L, De Beule PAA. Facile synthesis of an aminopropylsilane layer on Si/SiO<sub>2</sub> substrates using ethanol as APTES solvent. *Methods*. 2020; 7:100931.
2. Y. Han, D. Mayer, A. Offenhäusser, S. Ingebrandt, Surface activation of thin silicon oxides by wet cleaning and silanization, *Thin Solid Films* 510 (1–2) (2006) 175–180.