

Detection Reagent Addition

1. Prepare the detection reagent solution using an appropriate reaction buffer, e.g. 1 × PBS and apply to each pad as described above;
2. Incubate the slide at 100% relative humidity for 30 min at 37°C;
3. Rinse and dry the slide as described above.

Precautions

1. Use slides in a clean environment. Particulates adsorbed on the surface will affect sample printing and impair analysis results.
2. Avoid all direct handling of the slide surface. Wear gloves when handling. Do not touch the surface area used for probe spotting.
3. When a slide without a barcode is used, ensure the spotted side is marked using an appropriate method to identify it.
4. To obtain the best results, use the CapitalBio PolymerSlide™ G before the expiry date.
5. After removal from the storage refrigerator, allow the package to warm to room temperature to avoid condensation. Remove the slide from the package just prior to use. Avoid long-time storage after the package has been opened.

Information

For good spotting morphology, protein sample printing on PolymerSlide™ G is best performed using CapitalBio Protein Spotting Buffer A (Cat. No. 440015). For high signal reliability, protein interactions are best performed using a CapitalBio IncuSet™ Protein Incubation Cassette (Cat. No. 430020).

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CapitalBio PolymerSlide™ G

Cat. No. 420040

User Manual

**For Laboratory Research Use Only
Not for Diagnostic Purposes**

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General Introduction

CapitalBio PolymerSlide™ G is specially designed and manufactured for production of protein microarrays. The slide surface is covered by a thin three-dimensional polymer layer with aldehyde modification. Protein molecules diffuse into the polymer layer after spotting and become bound by covalent interactions between the aldehydes on the polymers and the amino groups in the proteins. The complex polymer chains provide a hydrated environment, essential for the preservation of the activities of the adsorbed proteins. No protein modification or pre-processing steps are required before probe printing.

CapitalBio PolymerSlide™ G is manufactured in a 12-pad format to allow analysis of multiple samples on the same slide. The multiple-pad format simplifies undertaking multiplexed experiments, side-by-side comparisons and control experiments, together under identical conditions on each slide.

Manufacturing and Quality Control

Modification of the slide surface is stringently controlled in a state-of-the-art clean-room. The high quality of each slide is guaranteed by reproducible precision injection molding and controlled surface treatment. Slide products undergo rigid quality control inspections, including background scanning for coating homogeneity and standard immobilization experiments for immunoreaction ability tests.

Key Features

1. Surface cleanliness is guaranteed by clean-room production;
2. Excellent dot morphology of spotted slides;
3. Precise slide dimensions: $25.2 \pm 0.2\text{mm} \times 75.5 \pm 0.2\text{mm} \times 1.0 \pm 0.05\text{mm}$;
4. Uniform surface wettability;
5. Homogeneous distribution of reactive aldehyde groups, especially suitable for attachment of protein molecules;
6. Pad-format aids sample addition with a multi-channel micro-pipette;
7. Slides have a shelf life of six months if kept sealed at 2-8°C.

Recommended Protocol (for sandwich assay)

Probe Printing and Immobilization

1. Prepare the protein printing probes at 0.1-2 mg/ml (recommended concentrations) using CapitalBio Protein Spotting Buffer A (Cat. No. 440015), or 40% glycerol;
2. Print the probe arrays using either contact or non-contact printing techniques;
3. Dry the printed slide under vacuum at 37°C for 16 h or longer.

Blocking

1. Quickly plunge the entire slide into a container with blocking buffer, e.g. 0.1 M Tris, 3% BSA or 100% animal serum. Incubate for 30 min at room temperature with gentle agitation;
2. Rinse the slide three times with a rinsing buffer (e.g. 1 × PBS + 0.1% Tween 20) each for 5 min with gentle agitation. Dry the slide with nitrogen, or spin dry.

Analyte Addition

1. Place the slide into a reaction chamber with the printed side facing up. Apply 20-30 µl of the analyte solution to each pad;
2. Incubate at 100% relative humidity for 30 min at 37°C;
3. Rinse and dry the slide as described above.