

2. Incubate under 100% relative humidity at 37°C for 30 min, or incubate at room temperature for a longer time period;
3. Rinse the slide three times using Rinsing Buffer, each for 5 min; Dry the slide with nitrogen, or spin dry.

Precautions

1. Use the 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 sample spotting.
3. When a slide without a barcode is used, ensure the spotted side is marked using an appropriate method to identify it.
4. Best results are obtained if the CapitalBio OPEpoxySlide™ is used 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 OPEpoxySlide™ is best performed using CapitalBio Protein Spotting Buffer B (Cat. No. 440016). For high signal reliability, protein interactions are best performed using a CapitalBio IncuSet™ Protein Incubation Cassette (Cat. No. 430020).

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CapitalBio OPEpoxySlide™

Cat. No. 420032

User Manual

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

CapitalBio Corporation

General Introduction

CapitalBio OPEpoxySlide™ is specially designed and manufactured for production of protein microarrays. Covalent interactions between the highly active epoxy groups on the surface and abundant amino groups, hydroxyl groups, mercapto groups, etc, in protein molecules proceeds readily after protein sample printing. Homogeneous distribution of epoxy groups on slide surface guarantees uniform spot size and excellent spot morphology. Low background fluorescence, high surface coating homogeneity and good spot morphology make CapitalBio OPEpoxySlide™ an excellent substrate for the production of high quality protein microarrays.

Manufacturing and Quality Control

Modification of the slide surface is stringently controlled in a state-of-the-art clean-room. Slide products undergo rigid quality control inspections, including contact angle measurement to monitor surface wetting characteristics, background scanning for coating homogeneity and standard experiments for immobilization and immunoreaction ability.

Key Features

1. Surface cleanliness is guaranteed by clean-room production;
2. Precise slide dimensions: $25.2 \pm 0.2\text{mm} \times 75.5 \pm 0.2\text{mm} \times 1.0 \pm 0.05\text{mm}$;
3. Uniform surface wettability;
4. Low intrinsic fluorescence and non-specific binding;
5. Homogeneous distribution of reactive epoxy groups; especially suitable for attachment of protein molecules;
6. Slides are available with and without a barcode label (7 mm × 20 mm);
7. The barcode is inert to the hybridization and rinsing buffers and other solvents;
8. Slides have a shelf life of six months if stored sealed at 2-8°C.

Recommended Protocols

(for antigen immobilization)

Probe Printing and Immobilization

1. Prepare the protein printing probes at 0.1-2 mg/ml (recommended concentrations) using CapitalBio Protein Spotting Buffer B (Cat. No. 440016), or 40% glycerol (adding 0.01%-0.04% SDS helps improve the spot morphology);
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

Before blocking, a CapitalBio SmartGrid™ (Cat. No. 430031-430033) can be adhered to the printed-side of the slide to facilitate separate incubations and prevent cross contamination. Use of CapitalBio SmartCover™ (Cat. No. 430041-410044) is also recommended to guarantee even distribution of added blocking or analyte solutions.

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.

Immuno-reaction

1. Place the slide with the printed-side facing up into a CapitalBio IncuSet™ Protein Chip Incubation Cassette (Cat. No. 430020). Add the pre-mixed reaction solution. Be careful not to produce bubbles while adding solution;