

---

# ProteinChip® NP20 Array (Normal Phase)

## Instruction Manual

Catalog #C57-30043

For technical support,  
call your local Bio-Rad office, or  
in the US, call **1-800-4BIORAD**  
**(1-800-424-6723)**.

**BIO-RAD**

## Uses

- Binding of highly water-soluble proteins
- On-chip sample cleanup
- Calibration of the ProteinChip SELDI system instrument using peptides or proteins of known molecular weight

## How It Works

Silicon oxide groups on the active spots of the ProteinChip NP20 array allow proteins to bind through hydrophilic and charged residues, including serine, threonine, and lysine. This surface is commonly used for microscale sample cleanup. Washing with water removes buffer components such as salts and detergents.

## Packaging and Storage

Store the arrays at room temperature.

ProteinChip arrays are packaged in a 12-array cassette.

A bioprocessor reservoir is included in the package (see Figure 1).

The spare ProteinChip cassette included to separate the reservoir from the arrays should be removed before use in the ProteinChip cassette-compatible bioprocessor (catalog #C50-30011). It is not necessary to remove the arrays when using the cassette-compatible bioprocessor; however, individual arrays can be removed if needed.

To do this, remove the bioprocessor reservoir before taking any arrays out of the cassette. Be careful not to touch the spots on the array. A pair of ProteinChip array forceps (catalog #C20-10002) helps effectively remove the arrays from the cassette (see Figure 2).

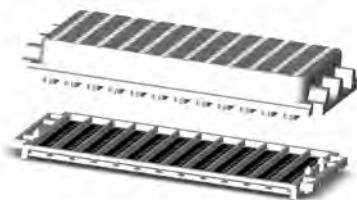


Fig. 1. ProteinChip cassette and reservoir.

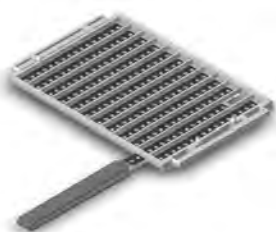


Fig. 2. Removal of ProteinChip arrays from cassette using array forceps.

## Technical Considerations

- Prerinsing the ProteinChip NP20 array with HPLC or better grade water may improve results

## Protocol: On-Spot

**Note:** This protocol is intended as a guideline; you may need to optimize the method for your particular sample type and experimental design.

---

1. Dilute or dissolve the sample in binding buffer. Most buffers are tolerated by this surface.
2. Load 5  $\mu$ l of sample per spot (ideally 200–2,000 nM, 10-fold less for peptides).
3. Allow sample to air-dry onto the surface for 5–10 minutes.
4. Wash each spot with 5  $\mu$ l of binding buffer with shaking (on MicroMix shaker, setting 20/4) and remove buffer. Repeat two more times.
5. Air-dry the array for 15–20 minutes.
6. Apply 0.5  $\mu$ l of saturated ProteinChip energy absorbing molecules (EAM) in solution to each spot. Allow to air-dry. Optional: Add another 0.5  $\mu$ l of saturated EAM in solution to improve signal intensity.
7. Analyze the arrays using the ProteinChip SELDI system.

## Ordering Information

| Catalog # | Description   |
|-----------|---|
| C57-30043 | <b>ProteinChip NP20 Arrays</b> , A–H format, 12   |
| C50-30011 | <b>ProteinChip Cassette-Compatible Bioprocessor</b> , includes ProteinChip array forceps, cassette hold-down frame, 12 blank ProteinChip arrays |
| C50-30008 | <b>ProteinChip 8-Well Bioprocessor</b> , A–H format   |
| C50-30012 | <b>ProteinChip Cassette-Compatible Bioprocessor Reservoirs</b> , 5  |
| C20-10002 | <b>ProteinChip Array Forceps</b> , 1 pair   |
| C30-00001 | <b>ProteinChip CHCA Energy Absorbing Molecules (EAM)</b> , 5 mg/vial, 20  |
| C30-00002 | <b>ProteinChip SPA Energy Absorbing Molecules (EAM)</b> , 5 mg/vial, 20   |
| C30-00003 | <b>ProteinChip EAM-1 Energy Absorbing Molecules (EAM)</b> , 5 mg/vial, 20   |

MicroMix is a trademark of Diagnostic Products Corporation.

The SELDI process is covered by US patents 5,719,060, 6,225,047, 6,579,719, 6,818,411, and other issued patents and pending applications in the US and other jurisdictions.



**Bio-Rad  
Laboratories, Inc.**

*Life Science  
Group*

**Web site** [www.bio-rad.com](http://www.bio-rad.com) **USA** 800 4BIORAD  
**Australia** 02 9914 2800 **Austria** 01 877 89 01  
**Belgium** 09 385 55 11 **Brazil** 55 21 3237 9400  
**Canada** 905 712 2771 **China** 86 21 6426 0808  
**Czech Republic** 420 241 430 532 **Denmark** 44 52 10 00  
**Finland** 09 804 22 00 **France** 01 47 95 69 65  
**Germany** 089 318 84 0 **Greece** 30 210 777 4396  
**Hong Kong** 852 2789 3300 **Hungary** 36 1 455 8800  
**India** 91 124 4029300/5013478 **Israel** 03 963 6050  
**Italy** 39 02 216091 **Japan** 03 5811 6270 **Korea** 82 2 3473 4460  
**Mexico** 55 5200 05 20 **The Netherlands** 0318 540666  
**New Zealand** 64 9415 2280 **Norway** 23 38 41 30  
**Poland** 48 22 331 99 99 **Portugal** 351 21 472 7700  
**Russia** 7 095 721 14 04 **Singapore** 65 6415 3188  
**South Africa** 27 0861 246 723 **Spain** 34 91 590 5200  
**Sweden** 08 555 12700 **Switzerland** 061 717 95 55  
**Taiwan** 886 2 2578 7189/2578 7241  
**United Kingdom** 020 8328 2000