

# ProteinIso® Ni-IDA Resin

Cat. No. DP111

Storage: at 2-8°C (20% ethanol) for two years

## Description

ProteinIso® Ni-IDA Resin allows rapid affinity purification of His-tagged proteins. The His-tagged proteins bind to Ni<sup>2+</sup> cations, which are immobilized on the Ni-IDA resin by 3 metal-chelating sites. After wash, the target proteins are recovered by gradient elution. The resin can be used both native and denatured protein purification.

## Resin Specifications

|  |                         |
|--|-------------------------|
| Resin                                      | Cross-linked 6% agarose |
| Ligand                                     | IDA                     |
| Shape                                      | sphere                  |
| Pore size                                  | 90 μm                   |
| Binding capacity                           | 20~40 mg/ml wet gel     |
| Recommended flow rate                      | <300 cm/h               |
| Highest resistance of atmospheric pressure | 0.3 Mpa                 |
| pH stability                               | 2~14                    |

## Procedures

### 1. Prepare Ni-IDA purification column

- (1) Thoroughly resuspend the Ni-IDA resin to achieve a homogeneous suspension of the resin in the 20% ethanol storage buffer.
- (2) Immediately transfer the resin into a purification column. Ensure that the bottom of the column is plugged with a stopper. Close the valve of the column. Allow the resin to settle.
- (3) Equilibrate the column with 5~10 bed volume of equilibration buffer.

### 2. Prepare samples

To avoid blocking column, samples should be centrifuged and filtrated with 0.45 μm filter before loading.

### 3. Load samples and wash

Load samples and wash with 5~10 bed volume of equilibration buffer and collect the flow-through in one tube.

### 4. Elute

Elute target proteins with imidazole or low pH buffer.

### 5. Regeneration of Ni-IDA resin

- (1) Wash the column/resin with 2 bed volume of 6 M GuHCl, 0.2 M acetic acid
- (2) 5 bed volume of deionized water
- (3) 3 bed volume of 2% SDS
- (4) 1 bed volume of 25% ethanol
- (5) 1 bed volume of 50% ethanol
- (6) 1 bed volume of 75% ethanol
- (7) 5 bed volume of 100% ethanol
- (8) 1 bed volume of 75% ethanol
- (9) 1 bed volume of 50% ethanol
- (10) 1 bed volume of 25% ethanol
- (11) 1 bed volume of deionized water
- (12) 5 bed volume of 100 mM EDTA, pH 8.0
- (13) 10 bed volume of deionized water
- (14) 5 bed volume of 100 mM NiSO<sub>4</sub>
- (15) Store column/resin in 20% ethanol.

#### Notes

- Samples should be centrifuged and filtrated with 0.45  $\mu$ m filter before loading.
- Equilibration Buffer for soluble protein  
300 mM NaCl, 50 mM sodium phosphate buffer, 10 mM imidazole, 10 mM Tris-Cl pH 8.0
- Equilibration Buffer for inclusion body  
6 M GuHCl, 100 mM sodium phosphate buffer, 10 mM Tris-HCl pH 8.0; or 8 M urea, 100 mM sodium phosphate buffer, 10 mM Tris-HCl pH 8.0

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