Pure Attraction

Selectivity that's simply captivating — Bio-Rad's Profinity™ IMAC Ni-charged resin provides optimal purification of recombinant His-tagged proteins.

- Optimal ligand density for higher purity of target protein
- Compatibility with denaturants, detergents, and reducing agents allows excellent purification over an expanded range of conditions
- Stability in pH 1–14 for storage in a variety of solutions
- Profinity polymer bead allows purification at fast flow rates
- Easy-to-pack resin may be used in medium-pressure, gravity-flow, and spin columns
- Also available uncharged
Profinity IMAC Ni-Charged Resin

Profinity IMAC Ni-charged resin provides purification of recombinant His-tagged proteins for a wide molecular weight range. The Profinity IMAC bead is a porous 60 µm particle derivatized with iminodiacetic acid (IDA), which functions as the chelating ligand. The chemical structure of IDA, when charged with Ni²⁺ or other transition metal ions, allows highly selective binding of recombinant His-tagged proteins over naturally occurring His-containing proteins. The polymeric nature, optimized IDA ligand density, and open pore structure of the Profinity IMAC bead result in superb mechanical strength, high selectivity for target proteins, low nonspecific binding, and the ability to perform purifications at faster flow rates.

Profinity IMAC resin is stable across the full pH range (1–14) and is compatible with reagents traditionally used in the purification of His-tagged proteins. Available either charged with nickel or uncharged in small and large volumes, the resin is easy to pack in Bio-Scale™ medium-pressure, Econo-Column® gravity-flow, and Bio-Spin® columns.

Purification of a putative aminopeptidase protein using different IMAC resins. An insoluble 32 kDa protein obtained from Anabaena sp. strain PCC 7120 (courtesy of Dr Ray Stevens, University of California, Berkeley, CA, USA) was expressed in E. coli and purified under denaturing conditions. E. coli lysate was loaded onto Micro Bio-Spin™ columns containing individual IMAC resins. For more information on Profinity IMAC resins, request bulletin 3193.

**Specifications**

- **Functional ligand**: IDA
- **Base bead**: UNOsphere™ base matrix
- **Form**: 50% suspension in 20% EtOH, precharged with Ni²⁺ or uncharged
- **Particle size**: 45–90 µm
- **Mean particle size**: 60 µm
- **Metal ion capacity**: 12–30 µmol Cu²⁺/ml
- **Dynamic binding capacity**
  - ≤15 mg/ml
- **Recommended linear flow rate**: ≤800 cm/hr at 25°C
- **Maximum operating pressure**: 7.5 bar (109 psi)
- **pH stability, uncharged resin**: 1–14 (up to 200 hr)
- **Chemical compatibilities**: See bulletin 3193 for complete list
- **Storage**: 4°C to ambient temperature
- **Shelf life in 20% EtOH**: >1 year at ambient temperature
- **Operational temperature**: 4–40°C
- **Autoclaving conditions**: 0.1 M sodium acetate at 120°C for 30 min

* Binding capacity was determined by Qₐₑₑ determination under the following conditions (dynamic binding capacity will vary from protein to protein):
  - **Column volume**: 1 ml (7 mm ID x 2.6 cm) column
  - **Sample**: 1.8 mg/ml pure 32 kDa His-tagged protein
  - **Flow rate**: 1 ml/min loading
  - **Loading buffer**: 50 mM sodium phosphate, 300 mM NaCl, 5 mM imidazole (pH 8.0)
  - **Wash buffer**: Same as loading except 10 mM imidazole
  - **Elution buffer**: Same as loading except 250 mM imidazole

**Ordering Information**

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>156-0131</td>
<td>Profinity IMAC Ni-Charged Resin, 10 ml</td>
</tr>
<tr>
<td>156-0133</td>
<td>Profinity IMAC Ni-Charged Resin, 25 ml</td>
</tr>
<tr>
<td>156-0135</td>
<td>Profinity IMAC Ni-Charged Resin, 100 ml</td>
</tr>
<tr>
<td>156-0137</td>
<td>Profinity IMAC Ni-Charged Resin, 500 ml</td>
</tr>
<tr>
<td>156-0121</td>
<td>Profinity IMAC Resin, 10 ml</td>
</tr>
<tr>
<td>156-0123</td>
<td>Profinity IMAC Resin, 50 ml</td>
</tr>
<tr>
<td>156-0125</td>
<td>Profinity IMAC Resin, 500 ml</td>
</tr>
<tr>
<td>156-0127</td>
<td>Profinity IMAC Resin, 1 L</td>
</tr>
</tbody>
</table>

Coomassie is a trademark of BASF Aktiengesellschaft.

Profinity IMAC resin is based on UNOsphere bead technology. UNOsphere technology is covered by US patent 6,423,666.

For more information on Profinity IMAC resins, request bulletin 3193.