Tagged package, His — Purification of histidine-tagged proteins

With our prepacked columns and verified protocols using ÄKTA™ chromatography systems, you can purify almost any histidine-tagged protein with ease. All of which means you can focus your efforts on what matters: your research, and changing tomorrow today.

Introduction

Histidine tags are widely used because they are small and rarely interfere with the function, activity, or structure of target proteins. Immobilized metal ion affinity chromatography (IMAC) is the most common method for purifying histidine-tagged proteins. IMAC media, charged with divalent metal ions, such as nickel (Ni^{2+}) or cobalt (Co^{2+}), selectively retain histidine-tagged proteins and also allow for the purification of insoluble histidine-tagged proteins from inclusion bodies when denaturing conditions are used. Successful IMAC purification gives a high yield of pure and active target protein.

Content of Tagged package, His

- HisTrap™ HP (1 × 1 ml)
- HiTrap™ TALON® crude (1 × 1 ml)
- HiTrap Desalting (1 × 5 ml)

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How to use the kit

The following workflow describes the steps involved in purifying histidine-tagged proteins.

1. **Sample preparation** First, you need to prepare your sample for the affinity purification step. For optimal growth, induction and cell lysis conditions for your histidine-tagged clones, please refer to established protocols. Note that it is important to include the same concentration of imidazole in your sample as in the binding buffer for affinity purification.

2. **Affinity purification** Your kit includes two different columns for purification of histidine-tagged proteins; HisTrap HP (precharged with Ni^{2+}) and HiTrap TALON crude (precharged with Co^{2+}). HisTrap HP is recommended when your primary goal is high binding capacity and HiTrap TALON crude is recommended when high purity is more important.

3. **Buffer exchange** The kit also includes a HiTrap Desalting column so you can remove imidazole from the eluate. This is important since imdiazole may disturb subsequent analysis. For sensitive analytical methods: use a small sample volume (0.25 ml) for desalting.

4. **Analysis** Depending on your purpose several analytical methods can be used. SDS-PAGE for purity analysis, Western blot for detection of target molecules, X-ray crystallography for structure determination, and mass spectrometry for identification.

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About the columns

To ensure that the columns do not interact with biomolecules, we produce them with biocompatible polypropylene. HiTrap columns can be used singly or connected in a series for easy scale up, together with a syringe, peristaltic pump, or chromatography system. HiTrap columns are well suited for use with ÄKTA start, an easy-to-learn and easy-to-use system that eliminates the hassles of manual protein purification.

Enjoy your protein purification!

Ordering information

Product	Quantity	Code number
Tagged package, His	1	29-0588-03
HisTrap HP	1 × 1 ml	29-0510-21
HiTrap TALON crude	1 × 1 ml	29-0485-65
HiTrap Desalting	1 × 5 ml	29-0486-84

Detailed information on how to use the columns and purification protocols can be found in the instructions for the respective products: HisTrap HP (code number 71-5027-68), HiTrap TALON crude (code number 28-9574-96) and HiTrap Desalting (code number 71-7154-00).

cytiva.com/purify-His

For local office contact information, visit cytiva.com/contact

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