

QIAGEN Sample and Assay Technologies

QIAGEN is the leading provider of innovative sample and assay technologies, enabling the isolation and detection of contents of any biological sample. Our advanced, high-quality products and services ensure success from sample to result.

QIAGEN sets standards in:

- Purification of DNA, RNA, and proteins
- Nucleic acid and protein assays
- microRNA research and RNAi
- Automation of sample and assay technologies

Our mission is to enable you to achieve outstanding success and breakthroughs. For more information, visit www.qiagen.com .

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Kit Contents

Catalog No.	Ni-NTA Spin Columns 31014	Ni-NTA Spin Kit 31314
Ni-NTA Spin Columns	50	50
2 ml Collection Microtubes	50	50
Guanidine HCl		40 g
Urea		100 g
1 M Imidazole, pH 7.0		50 ml
5x Phosphate Buffer Stock Solution (0.5 M NaH ₂ PO ₄ ; 50 mM Tris-Cl, pH 8.0)		100 ml
Control Vector DNA		1 µg

Storage Conditions

Ni-NTA Spin Kits and Ni-NTA Spin Columns should be stored at 2–8°C. They can be stored under these conditions for up to 18 months without any reduction in performance.

Technical Assistance

At QIAGEN, we pride ourselves on the quality and availability of our technical support. Our Technical Service Departments are staffed by experienced scientists with extensive practical and theoretical expertise in sample and assay technologies and the use of QIAGEN products. If you have any questions or experience any difficulties regarding Ni-NTA Spin Columns or Kits or QIAGEN products in general, please do not hesitate to contact us.

QIAGEN customers are a major source of information regarding advanced or specialized uses of our products. This information is helpful to other scientists as well as to the researchers at QIAGEN. We therefore encourage you to contact us if you have any suggestions about product performance or new applications and techniques.

For technical assistance and more information, please see our Technical Support center at www.qiagen.com/goto/TechSupportCenter or call one of the QIAGEN Technical Service Departments or local distributors (see back cover or visit www.qiagen.com).

Product Use Limitations

QIAexpress® products are developed, designed, and sold for research use. They are not to be used for human diagnostic or drug purposes or to be administered to humans unless expressly cleared for that purpose by the Food and Drug Administration in the USA or the appropriate regulatory authorities in the country of use. All due care and attention should be exercised in the handling of many of the materials described in this text.

Product Warranty and Satisfaction Guarantee

QIAGEN guarantees the performance of all products in the manner described in our product literature. The purchaser must determine the suitability of the product for its particular use. Should any product fail to perform satisfactorily due to any reason other than misuse, QIAGEN will replace it free of charge or refund the purchase price. We reserve the right to change, alter, or modify any product to enhance its performance and design. If a QIAGEN product does not meet your expectations, simply call your local Technical Service Department or distributor. We will credit your account or exchange the product — as you wish. Separate conditions apply to QIAGEN scientific instruments, service products, and to products shipped on dry ice. Please inquire for more information.

A copy of QIAGEN terms and conditions can be obtained on request, and is also provided on the back of our invoices. If you have questions about product specifications or performance, please call QIAGEN Technical Services or your local distributor (see back cover or visit www.qiagen.com).

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of Ni-NTA spin columns and kits is tested against predetermined specifications to ensure consistent product quality.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDSs). These are available online in convenient and compact PDF format at www.qiagen.com/ts/msds.asp where you can find, view, and print the MSDS for each QIAGEN kit and kit component.

Buffer A used for protein purification under denaturing conditions contains guanidine hydrochloride, which can form highly reactive compounds when combined with bleach.

CAUTION: DO NOT add bleach or acidic solutions directly to Buffer A.

If these buffers are spilt, clean with suitable laboratory detergent and water. If the spilt liquid contains potentially infectious agents, clean the affected area first with laboratory detergent and water, and then with 1% (v/v) sodium hypochlorite.

The following risk and safety phrases apply to the components of Ni-NTA Spin Kits.

Ni-NTA Spin Columns

Contains nickel-nitrilotriacetic acid. Risk and safety phrases*: R22-40-42/43. S13-26-36-46

Sodium phosphate stock solution, 5x

Contains sodium hydroxide: Irritant. Risk and safety phrases*: R36/38. S13-26-36-46

Guanidine hydrochloride

Contains guanidine hydrochloride: Harmful, Irritant. Risk and safety phrases*: R22-36/38. S22-26-36/37/39

Imidazole solution

Contains imidazole: Irritant. Risk and safety phrases*: R36/37/38. S23-26-36/37/39-45

24-hour emergency information

Emergency medical information in English, French, and German can be obtained 24 hours a day from: Poison Information Center Mainz, Germany
Tel: +49-6131-19240

* R22: Harmful if swallowed; R36/38: Irritating to eyes and skin; R36/37/38: Irritating to eyes, respiratory system and skin; R40: Possible risks of irreversible effects; R42/43: May cause sensitization by inhalation and skin contact; S13: Keep away from food, drink, and animal feedingstuffs; S22: Do not breathe dust; S23: Do not breathe vapor. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; S36: Wear suitable protective clothing; S36/37/39: Wear suitable protective clothing, gloves and eye/face protection; S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible); S46: If swallowed, seek medical advice immediately and show container or label.

Introduction

Ni-NTA Spin Kits provide a simple method for rapid screening and purification of 6xHis-tagged proteins from small-scale expression cultures. Proteins can be purified using either a manual procedure or a fully automated procedure on the QIAcube®.

This protein purification system is based on the remarkable selectivity of our unique Ni-NTA resin for recombinant proteins carrying a small affinity tag consisting of 6 consecutive histidine residues, the 6xHis tag. Ni-NTA Spin Kits provide all the advantages of QIAexpress Ni-NTA protein affinity purification (please refer to *The QIAexpressionist*™) in a convenient microspin format.

Ni-NTA Spin Kits are based on Ni-NTA Silica, a unique and versatile metal chelate chromatography material, packaged in ready-to-use spin columns. They allow rapid purification of proteins from crude cell lysates under either native or denaturing conditions. The one-step procedure allows purification of up to 300 µg 6xHis-tagged protein per column in as little as 15 minutes.

General Information

The high affinity of the Ni-NTA resins for 6xHis-tagged proteins or peptides is due to both the specificity of the interaction between histidine residues and immobilized nickel ions and to the strength with which these ions are held to the NTA resin. QIAexpress nickel-chelating resin utilizes our unique, patented NTA (nitrilotriacetic acid) ligand. NTA has a tetradentate chelating group that occupies four of six sites in the nickel coordination sphere. The metal is bound much more tightly than to a tridentate chelator such as IDA (imidodiacetic acid), which means that nickel ions — and as a result the proteins — are very strongly bound to the resin. This allows more stringent washing conditions, better separation, higher purity, and higher capacity — without nickel leaching.

Ni-NTA Silica combines all of the benefits of Ni-NTA with a silica material that has been modified to provide a hydrophilic surface. Nonspecific hydrophobic interactions are kept to a minimum, while the silica support allows efficient microspin technology. Ni-NTA spin columns are supplied precharged with nickel ions, ready for use.