

Nov 26, 2018

ChroSpin - ProteinG

DOI

dx.doi.org/10.17504/protocols.io.pyfdptn



David Frommholz¹, Alexandra Ehl¹, Nadine Stefanczyk¹

¹DALEX Biotech



Anonymous

DALEX Biotech

OPEN  ACCESS



DOI: dx.doi.org/10.17504/protocols.io.pyfdptn

External link: <https://dalex-biotech.com/>

Protocol Citation: David Frommholz, Alexandra Ehl, Nadine Stefanczyk 2018. ChroSpin - ProteinG. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.pyfdptn>

License: This is an open access protocol distributed under the terms of the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

Official product protocol by DALEX Biotech.

Created: May 07, 2018

Last Modified: November 26, 2018

Protocol Integer ID: 12007

Keywords: DALEX Biotech, Antibody, Antibodies, Protein Purification, Affinity Purification, Kit, Immunoglobulin, fast, simple, convenient

Abstract

Purification Guide for the Isolation of Antibodies with ChroSpin Columns by DALEX Biotech.

Easy and quick small scale antibody purification from various sources and species.

Each ChroSpin column has a binding capacity of > 2 mg (tested with human polyclonal Ig, binding varies between species and clones).

The proprietary resin does not shrink or swell in aqueous buffers.

High pressure stability.

pH stability short term 2 - 8, long term 3 - 8.

Excellent thermal stability up to 15 minutes at 80 °C in aqueous buffers at neutral pH.

Can be dried for long term storage (80 °C for > 2 h).

Guidelines

For optimal binding and purity, the pH of the sample should be 7-8 and should contain 150-300 mM NaCl. An easy way to achieve this is by adding 1/11 volume 10x PBS to your sample.

Purification works best with an antibody concentration of 2-3 mg/ml in your sample.

It is advisable that all fractions are collected (Sample, flow through, wash, and eluate) in separate tubes for analysis, e.g. SDS-PAGE.

Materials

Materials provided in the kit:

ChroSpin columns

Wash buffer

Elution buffer

Neutralization buffer

Sanitization solution

Materials not provided in the kit:

Tween-20

10x PBS

Deionized water

20 % ethanol



Safety warnings

! The buffers in the kit include sodium azide (CAS No. 26628-22-8) as a preservative. For safety information on this chemical(s) check <http://www.dguv.de/ifa/gestis-database>

Before start

Make sure your sample is free of particulate matter. You can remove particles by centrifugation or filtration (0.45 μm).



- 1 Do you want to purify antibodies or sanitize your column?
Please choose below.

STEP CASE

Purification 9 steps

Equilibration


- 2 Remove the bottom cap, add 500 µl wash buffer to the column, close the lid, invert sharply 3 - 5 times, and centrifuge 30 - 60 seconds at 1000 g.

Note

If you work with a used column, remove the storage solution by centrifugation first.

Load and Wash

- 3 Add up to 500 µl sample to the top of the column and incubate the column with end-over-end mixing or occasional inversion for 3 minutes.

 00:03:00

Note

For fast binding antibodies the incubation time can be decreased to 30 seconds. For slow binding antibodies the incubation time can be increased to 10 minutes. Longer incubation time is possible, however, this will also increase background.

For optimal binding and purity, the pH of the sample should be 7 - 8 and should contain 150 - 300 mM NaCl. An easy way to achieve this is by adding 1/11 volume 10x PBS to your sample.

Purification works best with an antibody concentration of 2 - 3 mg in your sample.

- 4 Centrifuge the column for 30 - 60 seconds at 1000 g and place the column into a clean receiver tube.

Note

It is advisable to keep the flow-through and wash fractions for later analysis, e.g. SDS-PAGE.

- 5 Add 500 μ l wash buffer to the column, close the lid, and invert 5 times. Centrifuge the column for 30 - 60 seconds at 1000 g and empty the receiver tube.

Note

In case of unspecific hydrophobic and/or ionic interactions include up to 1 % Tween-20 and/or up to 0.5 M NaCl in the wash buffer.

- 6 Repeat the previous step.

 [go to step #5](#)

Note

For increased purity, repeat the washing step up to 5 times.

Elution

- 7 Place the column into a clean receiver tube, add 200 μ l elution buffer to the column, close the lid, and invert three times. Centrifuge the column for 30 - 60 seconds at 1000 g.
- 8 Leave receiver tube in place. Add 200 μ l elution buffer to the column, close the lid and centrifuge for 30 - 60 seconds at 1000 g.
Repeat once more.
- 9 Add two drops of neutralization solution to the eluate and mix gently.



Cleaning and Storage

- 10 Wash the column by adding 500 μ l elution buffer and centrifuge at 1000 g for 30 - 60 seconds. Repeat this step with 500 μ l wash buffer and 500 μ l deionized water. Then, close the bottom of the column, add 500 μ l 20 % ethanol or wash buffer (contains 0.05 % (w/v) sodium azide). Close the lid and store at room temperature or at 4 - 8 °C.

Alternative for long-term storage:

Dry the open (top and bottom) column in an oven at 80 °C for at least 2 hours or over night. Make sure the bottom stopper is completely dry, too. Put on the column's outlet, close the lid and store the column closed at room temperature.