

Sephadex G-10 Chromatographic column

Instruction Manual

V1.0.2

Sephadex G-10 chromatographic column is according to Chinese pharmacopoeia on antibiotics in the β -lactam type polymer impurities in screening and developing special chromatographic column, fully meet the fourth China pharmacopoeia <0514 · molecular exclusion chromatography> in the determination of polymer impurity method. At the same time, the chromatographic column in polysaccharides, nucleic acids, proteins and peptides, also has a wide application in the separation of biomolecules.

Sephadex G-10 chromatographic packing physical and chemical parameters:

Particle Size (μm)	Column Volume (mL/g)	Pore Diameter ($\text{\AA}$)	pH	Separation Range
40-120	2-3	60	2-13	<700

1. PACKING INSTRUCTIONS

When after receiving the chromatographic column, please carefully check the following content:

- Whether the package is complete;
- Whether the collision marks on the column surface;
- A manual and a factory evaluation report are attached with the column.

Please check the purchase against the packing instructions.

2. INSTALLATION

Loading and unloading of chromatographic column should pay attention to avoid air bubbles into the chromatographic column, chromatographic column before installation should be bubble row away from the instrument piping. Operation method is as follows:

Open pump before installing chromatographic column, mobile phase full of connecting line, when a mobile phase from the connection head nut hole, stop the pump; Will the plastic plug from the chromatographic column at both ends, according to the chromatographic column identification of mobile phase flow carefully put the chromatographic column is connected to the instrument.

The mobile phase used is oriented in the direction of the arrows marked on the column tube, and prolonged reverse use results in loss of efficiency. The entry of air bubbles into the column reduces its efficiency.

After the column is installed, the mobile phase equilibrium column can be started, and generally the equilibration time of the column should be extended appropriately for the first time, and it is recommended to equilibrate at a flow rate of 1.0 mL/min for more than 1 hour. Sudden increases in flow velocity and rapid pressure increases should be avoided, which can lead to damage to the column bed and reduced column efficiency.

Gel columns require a smooth mobile phase operation, and mobile phase flow rate pulsations can affect analytical results. The column has a maximum withstand pressure of 2 MPa.

3. SAMPLE PREPARATION

The sample is usually dissolved in a mobile phase. If the mobile phase cannot dissolve the sample, adjust the pH value and salt concentration of the mobile phase as much as possible to avoid salt precipitation during use. The sample must be filtered with a 0.45 μm microporous membrane prior to injection, this is done even if there are no visible particles in the sample solution., as insoluble particles can be present in a variety of ways in the sample solution.

4. CHROMATOGRAPHIC COLUMN MAINTENANCE

If the column is used daily and the buffer is not corrosive and the concentration is relatively low, the buffer can be stored overnight in the chromatography system and column. If halides are present in the system, the buffer inside the column must be replaced with distilled water at the end of the experiment. When used above room temperature, do not stop the pump immediately after the experiment, continue to pass the mobile phase until the temperature of the column drops to room temperature. If the pump is stopped when the column temperature is high, air bubbles will enter the column during mobile phase cooling.

If the column is not used within a week, replace the salty mobile phase with distilled water from the column, remove the column from the instrument, and tighten the plastic plug.

When the column is not used for more than a week, the mobile phase in the column is replaced with an aqueous solution * containing bacteriostatic agent.

The column avoids direct sunlight and avoids contact with corrosive gases. Save at room temperature.

5. TROUBLE REMOVAL

Following the above procedures during column use avoids failure and extends column lifetime. If performance degradation occurs in use, the column can be regenerated as follows.

The carrier of gel chromatography does not interact with the solute, so the chromatographic separation is slightly equilibrated for the next chromatographic operation. However, in practice, there are often some contaminants that affect the surface of the column bed and must be properly treated. Crosslinked dextran gel column can be used with 0.5 mol/L NaOH and 0.5 mol/L NaCl mixture, 0.5mL/min rinse 3~5 times the column volume for regeneration treatment.

If the pressure of the chromatographic column suddenly increases and the column head collapses due to various reasons such as the blockage of the sieve plate, the large fluctuation of the flow rate or the frequent changes of the mobile phase during use, it is recommended to replace a new chromatographic column.

6. QUALITY ASSURANCE

(1) Ex-factory inspection report

Each column undergoes strict quality inspection before leaving the factory and issues a corresponding evaluation report. The solvent stored in the factory column is an aqueous solution containing a bacteriocide*.

(2) Guarantee

Please check the outer wall of the chromatographic column and the column efficiency immediately when you receive the chromatographic column. If you cannot get the guaranteed data, please contact the agent or contact us directly within two weeks. Note that the life of the column is related to many factors such as the conditions used, the type of sample, the frequency of use, the experience of the operator, and the operating environment.

Note : *, the aqueous solution containing bacteriostatic agent here generally refers to 0.02 % sodium azide (due to sodium azide is highly toxic, attention should be paid to safety and protective measures during

use.) aqueous solution, or other bacteriostatic agents with the same effect. Such as ProClin 300 commercial bacteriostatic agent.

Sephadex G-10 Column Order Information :

Specification (mm)	Order Number
10×300	31110088
15×300	31110144
10×400	31110334
15×400	31110089
10×500	31110322
14×300	31110092

Please scan the code for more product information!



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