

Shodex™



HPLC Columns

MANUAL

PROTEIN KW 405-4F

SHOWA
DENKO
EUROPE

Columns manufactured by Showa Denko K.K Japan
Made in Japan

Shodex HPLC Columns
Europe, Middle East, Africa, Russia

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Operational Manual

Shodex™ PROTEIN KW405-4F

(Please read this manual carefully before using the column to keep its good performance and life.)

1. Introduction

Shodex KW405-4F is a size exclusion chromatography column developed for separation of hydrophilic substances with low molecular weight, such as small proteins and peptides.

2. Instructions in handling <Important>

Caution! * Take notice of keeping instructions about the solvents and the reagents used with the column not to occur problems related to losing your health or leaking.

Attention! * Use the column within the regular range of flow rate, pressure and temperature. There is a danger of deteriorating the performance when it is handled beyond the permissible range even for a short time. See the clause "Usable conditions" about the permissible range.

3. Specifications

Column size:	4.6 mm I.D. X 300 mm L.
Column material (inside):	SUS 316.
Packing material:	Porous silica particle (5 µm) bound with hydrophilic polymer.
In-column solvent (initial):	Water.
Exclusion limit M.W.:	1,300,000 (estimated value as pullulan).
Number of theoretical plates:	> 25,000 per column.

4. Usable conditions

Flow rate:	<0.5 ml/min. *It should be 0.15 ml/min or less for replacing the in column solvent.
Pressure:	<7 MPa per column.
Temperature:	5~45°C.
pH:	3.0~7.5.

Eluent: An aqueous solution of salt or a buffer solution is usually used.
<Representative salts> sodium chloride, sodium nitrate, sodium sulfate, potassium sulfate, ammonium sulfate.
<Representative buffers> phosphate buffer, tris buffer, acetate buffer.
*Methanol or acetonitrile can be added up to 100 vol%.

Attention!

- 1) Do not remove the end fittings of the column under any circumstances.
- 2) Do not make a strong impact on the column: such as hitting or dropping on the floor.
- 3) Replace the solvent in the chromatograph with the eluent to be used before connecting the column.
- 4) Connect the column so that the flow direction corresponds to the arrow mark on the tag.
- 5) When the column is not used for a month or more, replace the in column solvent with water, close each end with a stopper, and store it at room temperature.
- 6) Adjust total salt concentration of eluent to not more than 0.5M.
- 7) Filtrate the sample with a disposable filter (0.45 μm) to prevent deterioration by adsorbing insoluble matters.
- 8) When methanol or acetonitrile is added to an aqueous solution of salt or a buffer solution, pay attention not to separate any salt after mixing.