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OPERATING CONDITIONS and SPECIFICATIONS

TSK-GEL® SP-NPR Products

Column:	13076	4.6mm ID x 3.5cm L Counter Ion: Na ⁺ Small Ion Capacity: >0.15 meq/ml	2.5 µm
Accessories:	03410 03411	Pre-Column Filter with 0.5 µm Frit Replacement 0.5 µm Frits, for 03410, pk 10	

This sheet contains the recommended operating conditions and the specifications for TSK-GEL SP-NPR columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

- Shipping Solvent: Distilled Water
- Max. Flow Rate: 1.6 ml/min

NOTE:

When a buffer with high viscosity is used, the maximum flow rate may have to be reduced so as not to exceed the maximum pressure drop. When changing solvents, use a flow rate equal to 25% of the maximum flow rate.

- Standard Flow Rate: 1.0 - 1.5 ml/min
- Max. Pressure: 200 kg/cm² = 2900 psi
- pH Range: 2 - 12 pH above 12 or below 2 can only be used for a short time
- Salt Conc.: ≤ 1 Molar
- Organic Conc.: ≤ 20%
- Temperature: 0 - 60°C

- Cleaning Solvents:
 - 0.1 - 0.2 M NaOH, or
 - 20 - 40% acetic acid aq., or
 - Aqueous buffer in 30% acetonitrile or methanol, or, if nothing else was successful,
 - Urea or non-ionic surfactant in buffer

NOTE:

Clean the column regularly by injecting up to one column volume 0.1 - 0.2 M NaOH in 100 - 250 µl increments.

- Storage: Store the column in the shipping solvent when it will not be used the next day. Avoid air to enter the column!
- Column Protection: No guard column is available for the TSK-GEL SP-NPR column. Be sure to use a filter after the injector with 0.5 micron pores to avoid frequent plugging of the one micron pore size NPR column frit. We also recommend a pre-injector membrane filter to prevent particles from pump seal wear to reach the column.

Use high quality reagents, water and solvents for preparing buffers. Fouling of the resin, leading to a loss in retention and/or efficiency, occurs faster due to the small surface area of non-porous resin particles.

B. SPECIFICATIONS

The performance of TSK-GEL SP-NPR columns is tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications

Resolution (Rs): ≥ 10.0 $R_s = 2(V_2 - V_1)/1.7(W_2 + W_1)$ in which
 V_1 = elution volume trypsinogen
 V_2 = elution volume α -chymotrypsinogen
 W_1, W_2 = widths of peaks 1 and 2 at half height