Instructions of TSKgel Aminopak

TSKgel Aminopak is the high performance cation exchange column for amino acid analysis. The packing material is fractionated in a narrow particle size distribution. One analysis of hydrolysated amino acid can be finished within 60 min.

Support

Base material : polymer gel (styrene-divinylbenzene)
Functional group : sulfonate
Ion exchange capacity : more than 4.2 meq/g (dry gel)
Counter ion : sodium
Particle size : 6 μ m

Column

Dimension : 4.6mm id.×12cm
Solvent : std. 2nd. buffer for ninhydrin method

Working range

Pressure limit : less than 8.0MPa (1,120psi)
pH range : 2.0—14.0
Salt concentration : less than 1.5M
Conter ion : sodium ion
Organic solvent in eluent : less than 20%
Temperature : 25—80℃ (for use)
      15—30℃ (for storage)

Quality test

Theoretical plate number and asymmetry factor of individual column are cofirmed in the quality test.
Guaranteed column efficiency
Theoretical plate : more than 1,250, Asymmetry factor : 1.00—1.35
Test conditions
Sample : tyrosine (0.1mg/mL, 20 μ L)
Eluent : std. 2nd. buffer for ninhydrin method
Flow rate : 0.4 mL/min
Temperature : 55±1℃
Detector : UV. abs. (280nm)

The Constituente of the Eluents for Amino Acid Analysis
(Ninhydrin Method)

1st. Buffer

sodium citrate 2 hydrate	$Na_2C_6H_5O_7$ $2H_2O$	19.6 g/L
citric acid 1 hydrate	$C_6H_5O_7$ H_2O	28.0 g/L
ethanol		80ml/L
β —thiodiglycol	$C_4H_{10}O_2S$	5.0ml/L
30% Brij—35 (polyethylene laurylether)		3.3ml/L
n—caprylic acid	$C_6H_{15}O_2$	0.1ml/L

pH value is adjusted to 3.26 with hydrochloric acid.

2nd. Buffer

sodium citrate 2 hydrate	19.6g/L
citric acid 1 hydrate	14.0g/L
β —thiodiglycol	5.0ml/L
30% Brij—35 aq.	3.3ml/L
n—caprylic acid	0.1ml/L

pH value is adjusted to 4.30 with hydrochloric acid.

3rd. Buffer

sodium citrate 2 hydrate		14.7g/L
sodium tetraborate 10 hydrate	$Na_2B_4O_7$ $10H_2O$	9.5g/L
sodium chloride	NaCl	35.1g/L
30% Brij—35 aq.		3.3ml/L
n—caprylic acid		0.1ml/L

pH value is adjusted to 9.40 with hydrochloric acid.

Clean—up solution

0.2 N sodium hydroxide aq.   8.0g/L

Typical eluent exchange timing

from 1st.buffer to 2nd. one	: 11 min
from 2nd.buffer to 3rd. one	: 22 min
from 3rd.buffer to Clean—up solution	: 45 min
from Clean—up solution to 1st.buffer	: 50 min