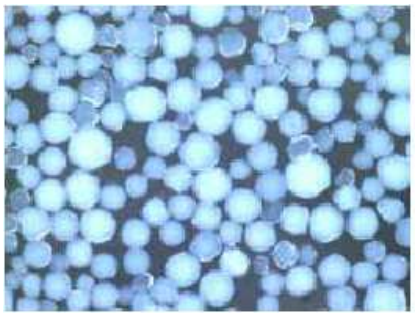
TD_Phosphate_N1_V2_E

Cellufine™ Phosphate

Introduction

Cellufine™ Phosphate is the new product of Cellufine™ series. Cellufine™ Phosphate is a porosity bead although the Cellulose Phosphate known from ancient times is a fiber. Therefore, Cellufine™ Phosphate is the fast flow rate and high resolution compared with the conventional product.

Cellufine™ Phosphate and cellulose phosphate micrograph



Cellufine™ Phosphate

Conventional Cellulose Phosphate

Comparison of resolution

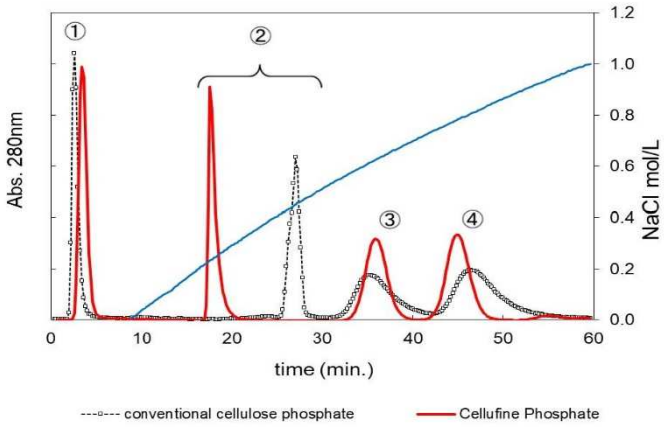


Fig.1 Separation of mixed sample

Column Size: ID 1.1cm – Height 10cm

Flow rate: 2ml/min (126cm/h)

Buffer: 0.01M acetate buffer, pH4.8

Elution: 0 to 1 mol/L NaCl gradient

Sample

① ATP 0.7 mg/mL

② Ovalbumin 20 mg/mL

③ Lysozyme 8 mg/mL

④ Chytochrome C 10mg/mL

Comparison of pore size

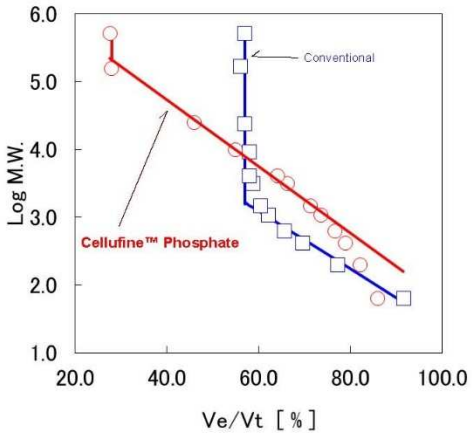
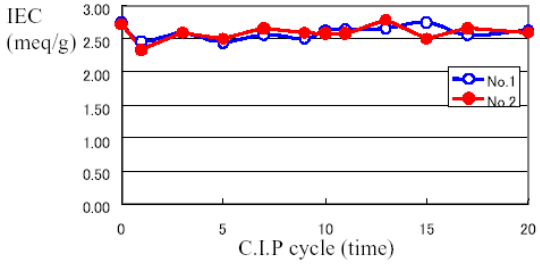


Fig.2 Cellufine Phosphate has a large pore compared with conventional Cellulose Phosphate.

Fig.3 C.I.P. Stability

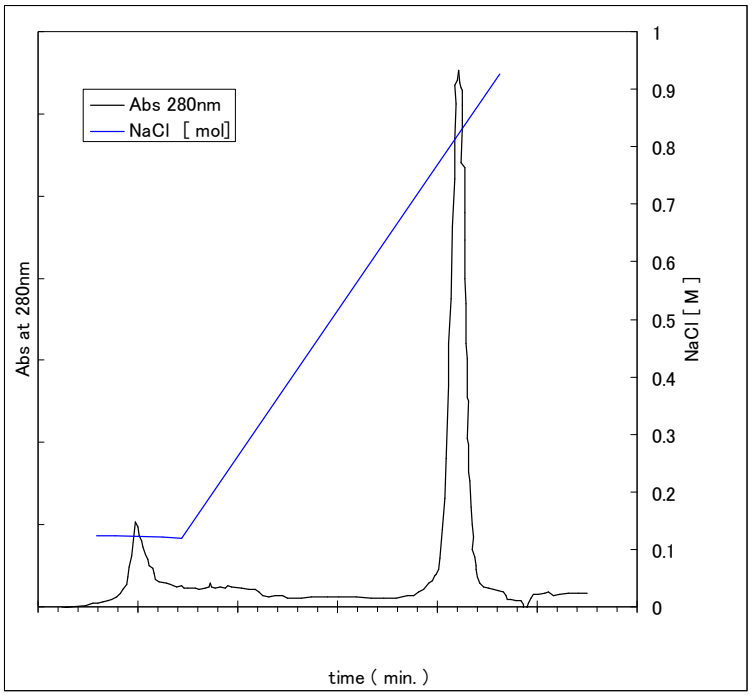


Cellufine Phosphate is stable to cleaning in place (C.I.P) by alkali.

Cellufine Phosphate

Cellufine Phosphate is preferably applicable to purification of DNA binding protein.

This data was kindly provided by Dr. Svetlana Sedelnikova of University of Sheffield.



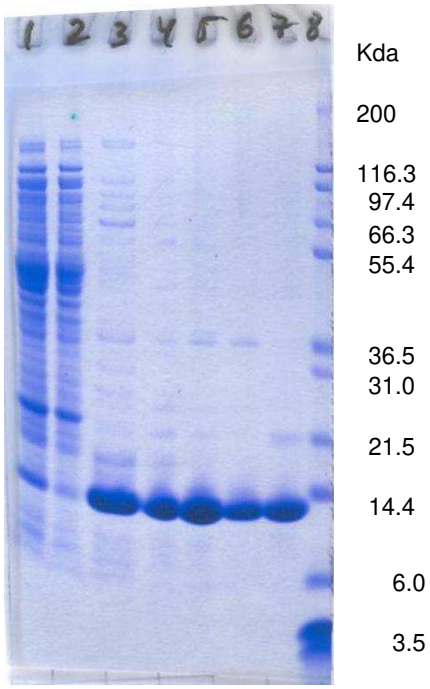


Fig. Use of Cellufine Phosphate in Rus A D70N purification

Chromatography

Column: 1.6x10cm (20ml) packed with Cellufine Phosphate Flow rate: 3ml/min(90cm/h)

Sample: 7.5mg of Rus A D70N obtained after Heparin-Sepharose chromatography

Gradient: 200ml from 0.1 to 1.3M NaCl in 50mM tris-HCl pH 8.0

SDS-PAGE

Gel: Novex 4-12%BT gel used with MES-SDS running buffer (Invitrogen)

Key for gel: 1 Cell free extract

2 Unbound material from Heparin-Sepharose column

3 RusA sample obtained from Heparin-Sepharose column

4-6 Fractions across the peak eluted from Cellufine Phosphate

7 RusA reference sample

8 Mark 12 MW standard (Invitrogen)

Fractions shown on lines 5 and six were combined to produce 3mg of the RusA D70N suitable for crystallization experiments (about 90% pure).

Ref.

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RusA Holliday junction resolves: DNA complex structure—insights into selectivity and specificity