

Cellufine Sulfate

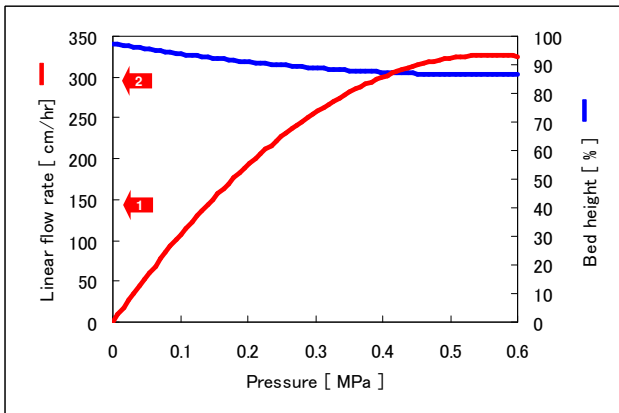


Fig1. Pressure-flow rate curve for Cellufine Sulfate.
 Column : I.D.9cm-38cm bed height / Mobile phase [water]
 The data is the average for 3 Lots of Cellufine Sulfate..

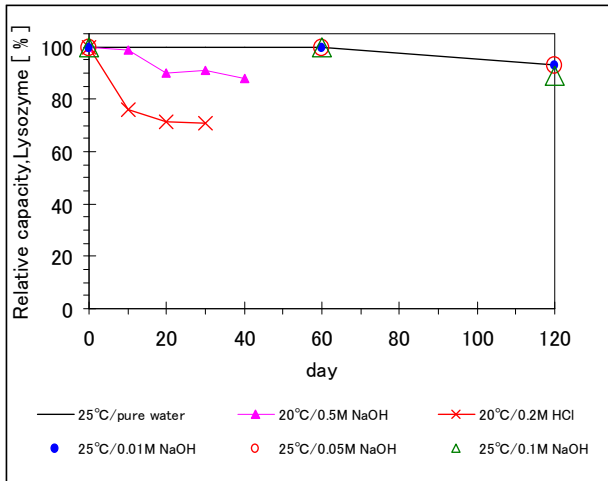


Fig2. Stability test in alkali and acid at 20°C/25°C.

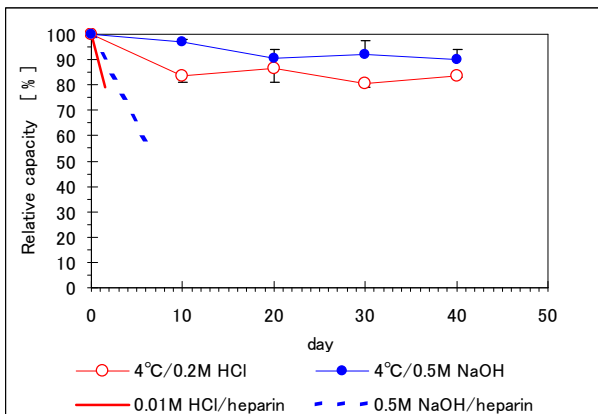


Fig3. Comparison of the stability of Cellufine Sulfate and Heparin-agarose gel in acid/alkali at 4°C.

Cellufine Sulfate can be used at high flow rates.

The flow/pressure curve for a Cellufine Sulfate column confirms operating flow rates above 250 cm/h can be obtained. The compressibility of Cellufine Sulfate is approximately 15%.

The red arrows show the nominal maximum flow rate of Heparin immobilized agarose.

- Arrow 1: 6% cross-linked agarose in a I.D.1.6cm column with a 5 cm bed height.
- Arrow 2: 6% cross-linked agarose in I.D.5cm column with a 25cm bed height.

Cellufine Sulfate is alkalai stable

When stored in 0.1M NaOH for 120 days at 25°C, the adsorption capacity of Lysozyme remained stable.

When stored 0.5M NaOH for 40 days at 20°C, adsorption of Lysozyme only decreased slightly.

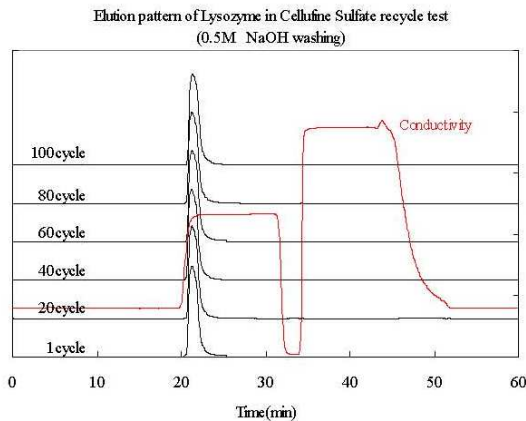
However, when stored in 0.2MHCl, for 30 days at 20 °C, the adsorption capacity of Lysozyme decreased by 30%.

The graph displays Capacity relative to the adsorption capacity before storage (as 100%).

Cellufine Sulfate is more stable in acid/alkali than Heparin immobilized agarose gel.

The stability data for Cellufine Sulfate was compared with the nominal data for Heparin immobilize agarose gel (highly spherical cross-linked agarose 6%) .

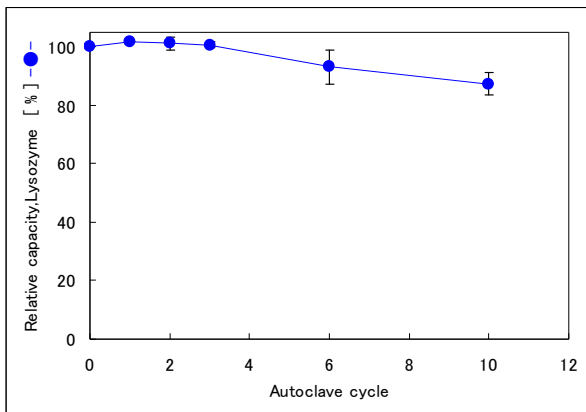
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Cellufine Sulfate performance remains constant over at least 100 operating cycles. The data to the left shows 100 purifications cycles followed by cleaning in 0.5 M NaOH.

Fig4. Stability by repeat cleaning (CIP) of Cellufine Sulfate.

column : I.D.1.14cm-bead height 9.8cm Flow rate : 150cm/hr at 20°C
 sample : 2mg/ml Lysozyme (injection vol. 10ml)
 adsorption buffer : 0.01M sodium phosphate , pH7.0 + 0.15M NaCl
 elution buffer : 0.01M sodium phosphate , pH7.0 + 0.60M NaCl
 regeneration solution : 0.5M NaOH
 Cycle 1)sample load 1CV;2)wash at adsorption buffer 3CV ;3)elution buffer 3CV
 4) regeneration solution 3CV ;5) equilibrium with adsorption buffer 5CV



Cellufine Sulfate can be Autoclaved repeatedly.

Autoclaving is recommended in a neutral, low salt buffer. Autoclaving in pure water may reduce performance.

Fig5. Change of adsorption capacity in Cellufine Sulfate during autocleaning cycle.

conditions: 50mM sodium phosphate , pH7.0 + 0.15M NaCl
 20minutes at 121°C

Cellufine Sulfate conforms to USP28, Plastic Class VI.

Cellufine™ is the trademark of JNC Corporation, Tokyo, Japan

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