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Product Information

Sephadex® G-25

Catalog Number **G2580**
Exact replacement for Catalog Numbers 84942 and 27107-1

Product Description

Sephadex is a beaded gel filtration medium prepared by cross-linking dextran with epichlorohydrin under alkaline conditions.[1] General information and procedures for using gel filtration to separate proteins or to desalt protein solutions have been described.[2,3]

This product can also be used for the separation of double-stranded DNA fragments. The exclusion limits for double-stranded DNA are as follows:

- G-25: 10 base pairs
- G-50: 20 base pairs
- G-100: 25 base pairs

DNA grade Sephadex is available as part of our molecular biology product line, in the following Catalogue Numbers:

- S5772 (G-25 Superfine)
- S5897 (G-50 Fine)
- S6022 (G-50 Medium)
- S6147 (G-100)

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

- This product should be placed in the usage buffer and allowed to swell for at least 3 hours at 20 °C or 1 hour at 90 °C.
- Once separation of the sample is complete, the gel should be washed with 2 column volumes of 0.2 M NaOH or a solution of non-ionic detergent, rinsed with water, and re-equilibrated with 2-3 column volumes of buffer.
- For storage, antimicrobial agents (e.g. 20% ethanol, 0.02% sodium azide) should be added to the suspension to prevent contamination.
- When necessary, the gel can be removed from the column and sterilized by autoclaving.

Storage/Stability

Sephadex does not melt and may be sterilized in the wet form at neutral pH by autoclaving for 30 minutes at 120 °C. This will not affect its chromatographic properties. If dry Sephadex is heated to more than 120 °C, it will start to caramelize.

Sephadex is stable in water, salt solutions, and organic and denaturing solvents. The pH stability is limited to low ionic strengths and short times when at the pH extremes of 2 and 13, particularly in the acid range. At low pH, partial hydrolysis of the matrix may occur. However, G-25 has been shown to withstand 0.1 M HCl for 1-2 hours and 0.02 M HCl for 6 months without any effect on its chromatographic properties.

The Sephadex resins are chemically resistant to 8 M urea. However, since these solutions would be very viscous, the flow rate would be much reduced in the presence of 8 M urea and would lead to high back pressure. The beads are not able to withstand increased pressure to get a reasonable flow rate. In this case, Sephacryl resins should be used. Sephacryl is more rigid and can withstand higher pressures. The Sephacryl resin is also resistant to 8 M urea.

References

1. Porath, J., and Flodin, P., *Nature*, **183(4676)**, 1657-1659 (1959).
2. Stellwagen, E., *Meth. Enzymol*., **182**, 317-328 (1990).
3. Ausubel, F.M. *et al*. (eds.), *Short Protocols in Molecular Biology*, 2nd edition. John Wiley & Sons (New York, NY), p. 10-36 to 10-39 (1992).

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