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ProductInformation

Hydroxyalkoxypropyl-Dextran

Product Number **H 6258**
Storage Temperature 2-8 °C

Product Description

This product is Lipophilic Sephadex® LH–20–100 (hydroxypropyl beaded dextran) which has been substituted with long chain (C_{13}–C_{18}) alkyl ethers. It is equivalent to Lipidex-1000, which is hydroxypropyl beaded dextran substituted with approximately 10% by weight long chain alkyl ethers averaging 15 carbons in length.

The wet particle size and exclusion limit for the gel varies depending on the solvent used for swelling.

A protocol for removal of fatty acids from serum albumins using Lipidex 1000 has been published.[1] The technique is considered to be milder than treatment with activated charcoal (usually at pH 3, 0 °C). Albumin is recovered in the void volume and can be lyophilized. The column can be reused after thorough washing with methanol to remove the bound fatty acids. After Lipidex 1000 chromatography, at least 90% of the fatty acids are removed and 90-94% albumin is recovered. Phospholipids, cholesterol and steriods can also be removed with this product.[1] A summary of this protocol is below.

A procedure for the regeneration of this product has been published.[2]

The product has also been used to separate protein-bound and unbound fatty acids. The article also discusses the delipidation of protein samples at 37 °C.[2] Several articles on the use of this product in fatty acid binding assays have been published.[3, 4, 5]

Acyl coenzyme A binding proteins assays that use this product have been published.[6, 7] This product has also been used in a geranylgeranylpyrophosphate (GGPP) binding assay.[8]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Procedure

The following procedure can be used for removal of fatty acids from serum albumin.[1]

1. Pack 100 ml of this product in a column.
2. Equilibrate with water at 37 °C.
3. Dissolve serum albumin (0.5 g) in 5.0 ml water and apply to the column.
4. Elute with water.

The following procedures can be used for cleaning of this resin.[2]

A. When it is not to be used immediately:
   1. Wash with several bed volumes of petroleum ether.
   2. Allow the column to dry thoroughly before re-use.

B. For immediate use:
   1. Wash with several bed volumes of petroleum ether.
   2. Wash with several bed volumes of acetone.
   3. Wash with several bed volumes of an acetone-water mix.

References

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4. Vork, M. M., et al., Assay of the binding of fatty acids by proteins: evaluation of the Lipidex 1000 procedure. Mol. Cell. Biochem., **98**, 111–117 (1990).
5. Alpers, D. H., et al., Intestinal fatty acid binding protein may favor differential apical fatty acid binding in the intestine. Biochim. Biophys. Acta, **1483**, 352–362 (2000).

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8. Desnoyers, L. and M. C., Seabra, Single prenyl-binding site on protein prenyl transferases. Proc. Nat. Acad. Sci., USA, **95**, 12266–12270 (1998).

Sephadex is a registered tradmark of Pharmacia, a division of Amersham Biosciences. Lipidex is the brand name of a line of lipophilic resins distributed by Packard Instrument Co, Downers Grove, IL.

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