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Product Information

Adenosine 5′-monophosphate–Agarose

Catalog Number **A1271**
Storage Temperature –20 °C

Synonym: 5′-AMP–agarose

Product Description

Adenosine 5′-monophosphate-Agarose (5′-AMP–agarose is a conjugate of 5′-AMP to crosslinked 4% beaded agarose (activated by cyanogen bromide), via the C-8 atom of 5′-AMP. 5′-AMP–agarose is used in studies of NAD^+-dependent dehydrogenases and ATP-dependent enzymes.

5′-AMP–agarose is useful in affinity chromatography for purifying various enzymes, such as:

- Aldehyde dehydrogenase[1]
- DNA polymerase δ[2]
- DNA polymerase ε[3]
- Lactate Dehydrogenase Isoenzyme-5[4]
- NADH oxidase[5]

Precautions and Disclaimer

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

Preparation Instructions

The 5′-AMP–agarose resin may be hydrated by the addition of excess water, e.g.100–150 mL per gram of resin, depending on the observed degree of swelling, for at least 30 minutes. The lactose stabilizer may be removed by washing the resin on a Buchner funnel with gentle vacuum, using 100–200 mL of water per gram of resin. Do not allow the resin to dry. The washed resin may then be resuspended in excess water or starting buffer, to pack the column bed.

Regeneration Procedure

Used 5′-AMP–agarose resin may be regenerated by washing the resin with 2–3 bed volumes of buffers in a cycle with alternating mildly basic and mildly acidic buffers, such as the following buffers:

- 0.1 M Trizma®-HCl plus 0.5 M NaCl, pH 8.5
- 0.1 M sodium acetate plus 0.5 M NaCl, pH 4.5

Three buffer wash cycles are suggested. The washed resin should then be re-equilibrated in 3–5 bed volumes of the desired binding buffer.

In situations where difficult-to-elute materials, such as lipids or denatured proteins, have become entrapped on the resin, a dilute detergent solution, e.g. 0.1% Triton™ X-100, may be used to wash the resin at 37 °C. The resin should then be immediately re-equilibrated with a minimum of 5 bed volumes of the desired binding buffer.

Storage/Stability

The lyophilized 5′-AMP–agarose resin should be stored at –20 °C. Hydrated 5′-AMP–agarose resin can be stored refrigerated in neutral pH buffer that contains a bacteriostat, such as 0.02% sodium azide or thimerosal, or 20% ethanol. Do not autoclave or freeze the hydrated resin. The resin can be used several times without loss of effectiveness.

References

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2. Cho, S.-W. *et al.*, *Mol. Cells*, **5(1)**, 20-24 (1995).
3. Lee, S.-K., and Fuchs, M.S., *FEBS Lett.*, **316(3)**, 261-263 (1993).
4. Pettit, S.M. *et al.*, *Clin. Chem.*, **27(1)**, 88-93 (1981).
5. Brown, D.M. *et al.*, *Eur. J. Biochem.*, **241(1)**, 155-161 (1996).

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