


SIGMA-ALDRICH
POLY-L-LYSINE SOLUTION
(Procedure No. P 8920)
Revised: 2002-11

INTENDED USE

Poly-L-Lysine Solution is intended for use as an adhesive subbing solution for immunohistochemistry (IHC) and routine histologic staining preparations. For uses other than IHC or routine histology, the end user must determine if this product is suitable for the intended use.

BACKGROUND AND PRINCIPLE

The loss of paraffin and frozen sections from slides has long been a problem during routine histologic staining procedures. Various adhesives including albumin, gelatin and chrome alum have been applied to slides to minimize this loss.¹⁻³

Different solutions of poly-L-Lysine have been shown to be most effective in promoting adhesion of sections.^{4,5} The polycationic nature of this molecule allows interaction with the anionic sites of tissue sections resulting in strong adhesive properties.⁵ Poly-L-Lysine has been demonstrated as an effective tissue adhesive for use in various microwave procedures.

REAGENT

POLY-L-LYSINE SOLUTION, Catalog No. P 8920
Poly-L-lysine, 0.1% (w/v), in deionized water.
Thimerosal, 0.01%, added as preservative.

PRECAUTIONS:

Poly-L-Lysine Solution is for "Lab Use Only". Normal precautions exercised in handling laboratory reagents should be followed. Dispose of waste observing all local, state and federal laws.

Refer to Material Safety Data Sheet for any updated risk, hazard or safety information.

PREPARATION:

Dilute Poly-L-Lysine Solution 1:10 with deionized water prior to coating slides. Use plastic containers and graduated cylinders when mixing or storing solution and coating slides. Do not add fresh solution to used diluted solution.

When diluted, Poly-L-Lysine solution is prepared according to instructions, the maximum number of slides that can be coated is 900 per liter of diluted solution. Exceeding 900 slides per liter will affect the performance of the product.

STORAGE AND STABILITY:

Store Poly-L-Lysine Solution at room temperature (18–26°C). Reagent is stable until expiration date shown on label.

Store diluted Poly-L-Lysine solution in refrigerator (2–8°C). The diluted solution is stable for at least three months. Filter diluted solution after use.

DETERIORATION:

Discard solutions if turbidity or bacterial growth develops.

PROCEDURE

MATERIALS REQUIRED BUT NOT PROVIDED:

Microscope slides
Slide rack
Plastic containers and graduated cylinder
Drying oven (optional)

NOTES:

1. Total slides coated should not exceed 400 to 900 per liter diluted solution.
2. Do not add fresh solution to used diluted solution.

- Slides must be clean before attempting this procedure. Clean with acid alcohol (i.e., 1% HCl in 70% ethanol) if necessary.

COATING PROCEDURE:

- Allow diluted Poly-L-Lysine solution to come to room temperature (18–26°C) before use.
- Place clean slides, a rack at a time, in diluted Poly-L-Lysine solution for 5 minutes. Increasing incubation time does not improve performance.
- Drain slides and dry in 60°C oven for 1 hour or at room temperature (18–26°C) overnight.

EXPECTED RESULTS

Solution promotes adhesion of paraffin and frozen sections to slides for routine histologic procedures.

Sigma-Aldrich Co., warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

REFERENCES

- Culling CFA, Allison RT, Bair WT: Cellular Pathology Technique, 4th ed. Butterworth & Co. Ltd. Boston, p 98, 1985
- Theory and Practice of Histological Techniques, JD Bancroft, A Stevens, Editors, Churchill Livingstone, New York, pp 75-76, 1982
- Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology, 3rd ed., LG Luna, Editor, McGraw-Hill, New York, p 28, 1968

- Mazia D, Schatten G, Sale W: Adhesion of cells to surfaces coated with poly-L-lysine. J Cell Biol 66:198, 1975
- Huang WM, Gibson SJ, Facer P, GU J, Polak JM: Improved section adhesion for immunocytochemistry using high molecular weight polymers of L-lysine as a slide coating. Histochem 77:275, 1983

SIGMA-ALDRICH CO.
P.O. BOX 14508 ST. LOUIS, MO 63178 USA
Technical Services: 800-325-0250 or call collect 314-286-7880
To Order: 800-325-3010 or call collect 314-771-5750

©2002 Sigma-Aldrich Co.

INDIVIDUAL REAGENT

Catalog No.	Item	Quantity
P 8920	POLY-L-LYSINE SOLUTION	100 ml 500 ml

Procedure No. P 8920
Previous Revision: 2000-08
Revised: 2002-11

P 8920

POLY-L-LYSINE SOLUTION

Poly-L-Lysine, 0.1% w/v, in water.
Thimerosal, 0.01%, added as preservative.

Slide adhesive solution for use in adhering tissue sections to glass slides. Particularly useful with immunohistochemical techniques.
See insert for instructions.

Storage: 18–26°C

For Lab Use Only

Product of USA

SIGMA-ALDRICH CO.
P.O. BOX 14508 ST. LOUIS, MO 63178 USA
Telephone 314-771-5750 (collect)