

# GenElute™-LPA Linear Polyacrylamide for Rapid Nucleic Acid Precipitation

## Product Specification

GenElute-LPA linear polyacrylamide is an efficient neutral carrier for precipitating picogram amounts of nucleic acids with ethanol. The nucleic acid precipitate can be collected simply by centrifugation. LPA offers several advantages over other carriers such as tRNA or glycogen for recovering DNA or studying DNA-protein interactions. For example, tRNA interferes with DNA during phosphorylation with polynucleotide kinase and glycogen competes with protein in DNA-protein interaction studies. In contrast, LPA is completely inert, as it is synthesized chemically and, therefore, is not contaminated with biological material.

The presence of LPA during ethanol precipitation results in complete recovery of fragments larger than 20 base pairs, whereas most of the DNA is lost if no carrier is used (Figure A). Very short DNA fragments, less than 20 bp, do not coprecipitate with LPA (3), allowing separation of labeled DNA from unreacted nucleotides by precipitation after the labeling reaction. The nucleic acid precipitate is visible immediately upon addition of LPA, eliminating wait time and low temperature incubation.

LPA has been used in several laboratories for most of the common manipulations of DNA, including enzyme reactions, gel electrophoresis, cloning (1), and DNA-protein interactions (2,3), and appears inert in all experiments. A very small amount of LPA (10-20µg) is required as carrier during ethanol precipitation of DNA.

GenElute-LPA is tested for nucleases and RNases, and is supplied in nuclease-free water as a 5mg/mL solution.

### Protocol for Precipitating Nucleic Acids from Solution, Using GenElute-LPA Carrier

1. To Nucleic Acids in 0.1M salt, add 10-20µg GenElute-LPA linear polyacrylamide and 2.5 vol ethanol. Vortex the mixture.
2. Centrifuge for 5 min at maximum speed (12,000 x g) in a microcentrifuge; recover pellet.
3. Dissolve pellet in buffer (10mM Tris/EDTA, pH 8.0).

### Benefits of GenElute-LPA Carrier:

- 100% recovery from most dilute samples
- No wait time, no low temperature incubation
- Precipitate recovered by simple centrifugation
- Complete recovery of fragments larger than 20 bp
- Completely inert – no interference, no contamination
- DNA good for further manipulation

### Figure A. Precipitation with LPA and Ethanol Provides Complete Recovery of DNA Fragments >20 bp; Very Short Fragments Do Not Coprecipitate

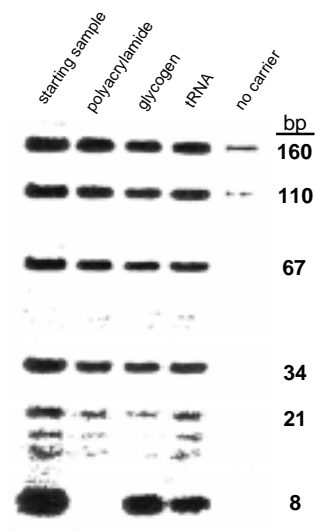


Figure A (autoradiogram) from C. Gaillard and F. Strauss, *Nucleic Acids Research*, **18**: 378; used by permission of Oxford University Press and the authors.

795-0796

### Ordering Information:

Description	Cat. No.
<b>GenElute-LPA</b>	
5mg/mL in nuclease-free water, 1mL	56575
Call for trial offer	56576

### References

1. Strauss, F. and A. Varshavsky, *Cell* **37**: 889-901 (1984).
  2. Aruffo, A. and B. Seed, *Proc. Natl. Acad. Sci. USA* **84**: 8573-8577 (1987).
  3. Gaillard, C. and F. Strauss, *Nucl. Acid Res.* **18**: 378 (1990).
- References not available from Supelco.

GenElute and ChromFax are trademarks of Sigma-Aldrich Co.

## Free Technical Literature From Supelco

Supelco produces a wide variety of technical literature, all of which is free. You may request this literature several different ways:

- Use the business reply card located at the back of our catalog.
- Call our Ordering and Customer Service department (800-247-6628 or 814-359-3441).
- Use our ChromFax™ service.

## Technical Literature Available on ChromFax

The listing of documents available on ChromFax is updated every month. We encourage you to request a list of available ChromFax documents each time you use the ChromFax system.

## How to Use ChromFax

ChromFax is Supelco's automated digital data system, which allows you to instantly obtain technical literature any time of the day or night. Supelco technical bulletins, application notes, lab hints, and product specification sheets can be sent to your Fax machine.

1. To use ChromFax you must dial from a touch-tone phone. If you do not have a touch-tone phone, call our Ordering and Customer Service department and we will fax the publication to you.
2. Have the phone number of your Fax machine ready, and dial **800-652-8069 or 814-359-5748**. Remember you must have the *complete* Fax number (011 + country/city code + Fax number) when you are calling from outside the US or Canada, otherwise the document cannot be transmitted.
3. When ChromFax answers, follow the simple recorded instructions. Select the **ChromFax number** of the document you want. Be certain you order documents by their ChromFax numbers and NOT their literature numbers.
4. Enter your Fax number and hang up. The requested information will be sent to you within minutes. To report a problem with the ChromFax system contact our Technical Service department.

Contact our Technical Service Department  
(phone 800-359-3041 or 814-359-3041, FAX 800-359-3044 or  
814-359-5468) for expert answers to your questions.

---

For more information, or current prices, contact your nearest Supelco subsidiary listed below. To obtain further contact information, visit our website ([www.sigma-aldrich.com](http://www.sigma-aldrich.com)), see the Supelco catalog, or contact Supelco, Bellefonte, PA 16823-0048 USA.

**ARGENTINA** • Sigma-Aldrich de Argentina, S.A. • Buenos Aires 1119 **AUSTRALIA** • Sigma-Aldrich Pty. Ltd. • Castle Hill NSW 2154 **AUSTRIA** • Sigma-Aldrich Handels GmbH • A-1110 Wien  
**BELGIUM** • Sigma-Aldrich N.V./S.A. • B-2880 Bornem **BRAZIL** • Sigma-Aldrich Quimica Brasil Ltda. • 01239-010 São Paulo, SP **CANADA** • Sigma-Aldrich Canada, Ltd. • 2149 Winston Park Dr., Oakville, ON L6H 6J8  
**CZECH REPUBLIC** • Sigma-Aldrich s.r.o. • 186 00 Praha 8 **DENMARK** • Sigma-Aldrich Denmark A/S • DK-2665 Vallensbaek Strand **FINLAND** • Sigma-Aldrich Finland/YA-Kemia Oy • FIN-00700 Helsinki  
**FRANCE** • Sigma-Aldrich Chimie • 38297 Saint-Quentin-Fallavier Cedex **GERMANY** • Sigma-Aldrich Chemie GmbH • D-82041 Deisenhofen **GREECE** • Sigma-Aldrich (o.m.) Ltd. • Ilioupoli 16346, Athens  
**HUNGARY** • Sigma-Aldrich Kft. • H-1067 Budapest **INDIA** • Sigma-Aldrich Co. • Bangalore 560 048 **IRELAND** • Sigma-Aldrich Ireland Ltd. • Dublin 24 **ISRAEL** • Sigma Israel Chemicals Ltd. • Rehovot 76100  
**ITALY** • Sigma-Aldrich s.r.l. • 20151 Milano **JAPAN** • Sigma-Aldrich Japan K.K. • Chuo-ku, Tokyo 103 **KOREA** • Sigma-Aldrich Korea • Seoul **MALAYSIA** • Sigma-Aldrich (M) Sdn. Bhd. • 58200 Kuala Lumpur  
**MEXICO** • Sigma-Aldrich Quimica S.A. de C.V. • 50200 Toluca **NETHERLANDS** • Sigma-Aldrich Chemie BV • 3330 AA Zwijndrecht **NORWAY** • Sigma-Aldrich Norway • Torshov • N-0401 Oslo  
**POLAND** • Sigma-Aldrich Sp. z o.o. • 61-663 Poznań **PORTUGAL** • Sigma-Aldrich Quimica, S.A. • Sintra 2710 **RUSSIA** • Sigma-Aldrich Russia • Moscow 103062 **SINGAPORE** • Sigma-Aldrich Pte. Ltd.  
**SOUTH AFRICA** • Sigma-Aldrich (pty) Ltd. • Jet Park 1459 **SPAIN** • Sigma-Aldrich Quimica, S.A. • 28100 Alcobendas, Madrid **SWEDEN** • Sigma-Aldrich Sweden AB • 135 70 Stockholm  
**SWITZERLAND** • Supelco • CH-9471 Buchs **UNITED KINGDOM** • Sigma-Aldrich Company Ltd. • Poole, Dorset BH12 4QH  
**UNITED STATES** • Supelco • Supelco Park • Bellefonte, PA 16823-0048 • Phone 800-247-6628 or 814-359-3441 • Fax 800-447-3044 or 814-359-3044 • email: [supelco@sial.com](mailto:supelco@sial.com)

H

Supelco is a member of the Sigma-Aldrich family. Supelco products are sold through Sigma-Aldrich, Inc. Sigma-Aldrich 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 a particular use. Additional terms and conditions may apply. Please see the reverse side of the invoice or packing slip. ALB