Linear Acrylamide

Store at –20°C.

Catalog #:	AM9520
Concentration:	5 mg/mL
Volume:	5 x 1 mL
Product Description:	A carrier for nucleic acid precipitation, for applications where nucleic acid carriers would interfere with subsequent enzymatic reactions.
Storage Conditions:	Store at –20°C.
Storage Buffer:	Nuclease-free Water

USER INFORMATION

General Information:

Linear acrylamide has been shown to precipitate picogram amounts of DNA fragments larger than 20 base pairs while failing to precipitate shorter fragments and free nucleotides. This feature makes linear acrylamide useful for separating reaction products from unincorporated nucleotides and oligonucleotide primers. Like glycogen, it is preferred over yeast RNA as a coprecipitant for applications where added nucleic acid could interfere or compete with subsequent enzymatic reactions. Linear acrylamide offers the additional advantage that it is not derived from a biological source or treated with reagents (e.g., proteases) derived from biological sources. It may, therefore, be the most appropriate coprecipitant to use when precipitating DNA and RNA for PCR and RT-PCR reactions, respectively. In these procedures, small amounts of contaminating nucleic acids present in the carrier could also be amplified, generating spurious background.

Applications:

Linear acrylamide is used as a coprecipitant to improve the recovery of nucleic acids during alcohol precipitation [1, 2]. For precipitation of restriction fragments, PCR products, or RNA, adjust the monovalent cation concentration of the solution (for example to 0.5 M ammonium acetate). Add linear acrylamide to a final concentration of 10–20 µg/mL, mix well, then add one volume of 100% isopropanol or two volumes of 100% ethanol. Chill at least 15 min at –20°C or below, centrifuge for ≥15 minutes at ≥10,000 x g. Carefully remove the supernatant fluid, and resuspend the pellet in an appropriate buffer. For precipitation of oligonucleotides, follow the same procedure, using ethanol instead of isopropanol for best recovery. Wash with 80% ethanol to remove excess salt.

References:

1. Gaillard C and Strauss F (1990) Ethanol precipitation of DNA with linear polyacrylamide as a carrier. *Nucleic Acids Research* **18:**378.
2. Wang E (2005) RNA amplification for successful gene profiling analysis. *J Transl Med*. **25(3)**:28

QUALITY CONTROL

Nonspecific Endonuclease Activity:	Meets or exceeds specification when a sample is incubated for 14–16 hr with 300 ng supercoiled plasmid DNA and analyzed by agarose gel electrophoresis.
Exonuclease Activity:	Meets or exceeds specification when a sample is incubated for 14–16 hr with 40 ng labeled *Sau*3A fragments of pUC19 and analyzed by PAGE.
RNase Activity:	Meets or exceeds specification when a sample is incubated for 14–16 hr with 25 ng labeled RNA and analyzed by PAGE.

OTHER INFORMATION

Material Safety Data Sheets:

Material Safety Data Sheets (MSDSs) can be printed or downloaded from product-specific links on our website at the following address: www.ambion.com/techlib/msds. Alternatively, e-mail your request to MSDS_Inquiry_CCRM@appliedbiosystems.com. Specify the catalog or part number(s) of the product(s), and we will e-mail the associated MSDSs unless you specify a preference for fax delivery. For customers without access to the internet or fax, our technical service department can fulfill MSDS requests placed by telephone or postal mail. (Requests for postal delivery require 1–2 weeks for processing.)

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