



Technical Information

Products for Molecular Biology

DEPC Treated Water, Ultra Pure (Molecular Biology Grade)

Catalog #:	351-068-721	4x100ml, 100 ml
	351-068-101	500ml
	351-068-101CS	10x500ml
	351-068-131	1000 ml (1.0 L)
	351-068-131CS	10x1000ml
	351-068-491	4 Liter
	351-068-151	10 Liter
	351-068-161	20 Liter

Store at: 15 to 30°C

Shipped at: ambient temperature

DESCRIPTION

Quality Biological's (QBI) DEPC-Treated Water is Ultra Pure and prepared by reverse osmosis, passed through fine carbon, de-ionized through two resin beds and serially filtered twice through 0.2 µm positively charged membranes. The water is subsequently treated with 0.1% (v/v) DEPC (Diethylpyrocarbonate) and incubated and heated overnight at 37°C. Finally, DEPC-Treated Water is filtered through a 0.1µm filter.

APPLICATIONS

DEPC-Treated Water can be used to reconstitute nucleic acids and/or proteins. In addition, it can be used as a diluent or solvent for any molecular biology grade reagent. The following are three examples of situations where DEPC-Treated Water may be usefully employed:

- *RNA Applications*
(e.g., Preparations of an RNA probe)³
- *DNA Applications*
(e.g., Subcloning in pUC plasmids)³
- *Protein Applications*
(e.g., Western Blotting)³

QUALITY CONTROL

General

All QBI products for Molecular Biology are prepared according to standard published protocols^{1, 2} or to formulations provided by customers. In addition, all products are subjected to a variety of quality control procedures, including pH and conductivity determinations, in order to validate that the test product is within its specifications.

Product Specific Testing

DEPC-Treated Water is routinely tested for the absence of DNase, RNase and Protease activity. Protocols shown on the next page.

REFERENCES

1. Sambrook, J., Fritsch, E.F. & Maniatis, T. (1989) *Molecular Cloning, A Laboratory Manual, 2nd Edition*. Cold Spring Harbor Laboratory Press.
2. Ausubel, F.M. et al., eds. (1993) *Current Protocols in Molecular Biology*. Greene Publishing Associates, Inc., in association with John Wiley & Sons, Inc.
3. Davis, L.G., Dibner, M.D. & Battey, J.F. (1986) *Basic Methods in Molecular Biology*. Elsevier Science Publishing Company, Inc.

Product Specific Testing Protocols

Deoxyribonuclease (DNase) Activity Testing

1. DEPC-Treated Water is incubated at 37°C with 1.0 µg of pBR 322 and *Pst* I-digested X174 DNA for 16-20 hours.
2. Subsequently, the test nucleic acid acids are subjected to agarose gel electrophoresis and SYBR® Green I staining.
3. The test DNA is evaluated relative to the untreated DNA (negative control) for degradation and changes in fragment size and/or banding pattern which are both indicative of DNase activity.

Ribonuclease (RNase) Activity Testing

1. DEPC-Treated Water is incubated at 37°C with prokaryotic MS2 ribosomal and eukaryotic 18S/28S ribosomal RNA substrates for 16-20 hours.
2. The test RNA is evaluated by non-denaturing agarose gel electrophoresis and SYBR® Green II staining.
3. RNA degradation is evidenced by broadening and smearing of the RNA banding pattern.

Protease Activity Testing

1. DEPC-Treated Water is incubated at 37°C on a fibrin clot matrix for 16-20 hours.
2. The presence of a clear area of degraded fibrin is indicative of protease contamination.

The test results of individual lots of DEPC-Treated Water are available upon request from Technical Services.

All products sold by Quality Biological are intended for research use only. This product has not been approved for diagnostic or IVD use.

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