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Product Information

TRIS Acetate-EDTA buffer, 10× concentrate
DNase and RNase, none detected, BioReagent, suitable for electrophoresis

Catalog Number **T4038**
Store at Room Temperature

Synonym: TAE buffer

Product Description

TRIS Acetate-EDTA (TAE) buffer is a powder blend packaged in sealed foiled pouches that produces a 10× concentrate of TAE (0.4 M Tris acetate and 10 mM EDTA, pH 8.3), when dissolved with the indicated amount of water. A suitable size container must be separately obtained.

TRIS Acetate-EDTA buffer is suitable for gel electrophoresis after dilution to the working concentration. This product has been analyzed for the absence of nucleases.

Tris-Acetate-EDTA (TAE) running buffer is a commonly used buffer for DNA agarose gel electrophoresis, and is especially useful in preparative work.[1] Compared to Tris-Borate-EDTA (TBE) and Tris-Phosphate-EDTA (TPE) buffers, double-stranded DNA tends to run faster in TAE. However, because TAE has the lowest buffering capacity of the three buffers, the buffering capacity can become exhausted during extended electrophoresis. Buffer circulation or replacement can remedy this situation.

The 1× TAE buffer is used both in the agarose gel and as a running buffer. Applied voltages of <5 V/cm (the distance between the electrodes of the unit) are recommended for maximum resolution.[2] TAE buffer has been utilized in agarose gel electrophoresis of RNA.[3,4] A study of free DNA solution mobility in TAE at various buffer concentrations, in the presence and absence of added NaCl, has been reported.[5] The use of TAE buffer in a denaturing gradient gel electrophoresis method for broad-range mutation analysis has been described.[6]

Precautions and Disclaimer

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

References

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3. Loening, U.E., The fractionation of high-molecular-weight ribonucleic acid by polyacrylamide-gel electrophoresis. *Biochem. J.,* **102**, 251-257 (1967).
4. Masters, D.B. et al., High sensitivity quantification of RNA from gels and autoradiograms with affordable optical scanning. *Biotechniques,* **12(6)**, 902-906, 908-911 (1992).
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6. Hayes, V.M. et al., Improvements in gel composition and electrophoretic conditions for broad-range mutation analysis by denaturing gradient gel electrophoresis. *Nucleic Acids Res.,* **27(20)**, e29 (1999).

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