TNE Buffer (10×, pH 7.4)

Cat #: A-CSH688

Size: 100mL, 500mL

Storage: Room temperature (12 months)

Product Description

TNE Buffer (10×, pH 7.4) is primarily composed of Tris, EDTA, and NaCl, hence it is also known as NTE Buffer. This reagent is mainly used for the absorption and quantitative analysis of RNA and DNA in absorbance and fluorescence spectroscopy. It provides a direct and simple method for absorbance measurements, taking into account the effects of contaminants and buffer components. Fluorescence analysis is less susceptible to interference compared to A260 measurements.

Usage

1. Dilute the TNE Buffer (10×, pH 7.4) with deionized water to obtain a 1× solution.

2. Take 1 mL of 1× TNE Buffer and transfer it to a quartz cuvette. Place the cuvette in a single-beam or double-beam spectrophotometer and read the value at 352 nm, then zero the instrument. This blank solution serves as a reference for double-beam instruments. For single-beam spectrophotometers, remove the blank cuvette and insert a quartz cuvette containing the DNA sample or standard, then take the reading. Repeat this process at 280 nm (protein), 260 nm (nucleic acid), and 230 nm (peptides, phenols, urea).

3. Use the A260 reading to calculate the nucleic acid concentration (C) using the following equations:

   Single-stranded DNA: C (pmol/μl) = A260/(10×S), C (μg/ml) = A260/0.027

   Double-stranded DNA: C (pmol/μl) = A260/(13.2×S), C (μg/ml) = A260/0.020

   Single-stranded RNA: C (μg/ml) = A260/0.025

   Oligonucleotides: C (pmol/μl) = 100×A260/(1.5NA+0.71NC+1.2NG+0.84NT)

Here, S represents the size of DNA in kilobases (kb), and N represents the number of bases.

4. Use the ratio of A260/A280 and the readings at A230 and A325 to estimate the purity of the nucleic acid sample. A ratio of 1.8-1.9 indicates high DNA purity, while a ratio of 1.9-2.0 indicates high RNA purity.

Notes

1. If the quantity used each time is small, it can be divided into appropriate portions before use.

2. For your safety and health, please wear lab attire and disposable gloves during the operation.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.