

## Tris-EDTA (TE) Buffer Solutions

DNase, RNase and protease-none detected

Catalog Number **ML 014-74 (pH 7.4)**

**ML 014-76 (pH 7.6)**

**ML 014-80 (pH 8.0)**

Storage Temperature 15~30°C

### Product Description

Tris-EDTA (TE) buffer solution is the most commonly used solution in suspending and preserving nucleic acid. Tris {tris(hydroxymethyl)aminomethane}, which is easily soluble in water, exhibits a pKa of 8.1 (25°C) and buffers at maximum efficiency between pH ranges 7.0~9.1; therefore the product is appropriate for preserving nucleic acid, which requires to be rinsed and suspended in a slightly basic solution (pH 7.4~8.0). When the pH goes below 7.0 or above 9.1, however, the product's buffering capability diminishes and the pH becomes susceptible to temperature (1°C increase leads to 0.03 drop in pH). For accurate pH measurements, a specialized pH probe for Tris solutions is required. The product is highly reactive and cannot be used with glutaraldehyde, formaldehyde, and glyoxal. Some animal cells also show toxic responses to the product; therefore such facts should be considered in advance to using the product. Ethylenediaminetetraacetic acid (EDTA) combines with cations such as Mg<sup>2+</sup> or Ca<sup>2+</sup> to form a complex compound. EDTA has 4 negative charges for each molecule, and reacts with the diatomic positive charges of two cations. These cations generally assist enzymes (DNase) in hydrolyzing DNA. Potential DNase activity in solutions containing nucleic acid can be deterred with the addition of EDTA. However, EDTA might repress helpful enzyme reactions when rinsing and suspending nucleic acids. Such facts need to be considered prior to the usage of TE buffer. Alternative methods including diluting the solution to a tenth of its original concentration, or using Tris-Cl buffer.

**ML 014-74** contains 10 mM Tris-HCl and 1 mM EDTA. pH is 7.4.

**ML 014-76** contains 10 mM Tris-HCl and 1 mM EDTA. pH is 7.6.

**ML 014-80** contains 10 mM Tris-HCl and 1 mM EDTA. pH is 8.0.

### Storage/Stability

The concentrated TE buffers should be stored at 15~30°C. Deterioration of the solution may be recognized by (1) precipitate or particulate matter throughout the solution, (2) cloudy appearance, (3) color change, and/or (4) pH change. Product label bears expiration date.

### Precautions

For *In Vitro* Use Only

Components	mM		
	ML 014-74	ML 014-76	ML 014-80
Tris-HCl	10	10	10
EDTA	1	1	1
pH	7.4	7.6	8.0

Product Profile	
Appearance	Clear colorless solution
DNase, RNase, and Proteinase	None Detected
Sterility	Sterilized by autoclaving (121°C, 20 min) and 0.2 μm filtration system. Sterility tests are performed in accordance with protocols described in USP.