



**Title:** *Buffers and Stock Solutions: Tris-Buffered Saline (TBS); Tris/EDTA Buffer (TE); Tris-Cl, 1M*

No: RTLP-GL-BSS-2

Location:  
*Old CCRC Tripp Lab*

Approval Date:  
10 September 2004

Supersedes Date:

**Materials:**

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- |             |                            |                             |                  |
|-------------|----------------------------|-----------------------------|------------------|
| •Lab coat   | •Tris base                 | •Concentrated HCL           | •Pipettes        |
| •Gloves     | •Stir bar                  | •dH <sub>2</sub> O          | •Pipetteman      |
| •Stir plate | •100 mM Tris-Cl,<br>pH 7.5 | •Analytical balance         | •Pipette Aid     |
| •Stir bar   | •pH Meter                  | •Two 1L erlymeyer<br>flasks | •Pipetteman tips |

**Procedure:**

First begin by making Tris-Cl, 1M

1. Dissolve 121 grams Tris base in 800 mL dH<sub>2</sub>O.
2. Adjust to desired pH with concentrated HCL.

*Note: Approximately 70 ml HCl is needed to achieve a pH 7.4 solution, and ~42 ml for a solution that is pH 8.0.*

3. Bring up the volume to 1 L with dH<sub>2</sub>O.
4. Filter sterilize if necessary.
5. Store up to 6 months at 4°C or room temperature

**IMPORTANT NOTE:** *The pH of Tris buffers changes significantly with temperature, decreasing approximately 0.028 pH units per 1 °C. Tris-buffered solutions should be adjusted to the desired pH at the temperature at which they will be used. Because the pK<sub>a</sub> of Tris is 8.08, Tris should not be used as a buffer below pH ~7.2 or above pH ~9.0.*

Tris/EDTA Buffer (TE)

1. To 10 mM Tris·Cl, pH 7.4, 7.5, or 8.0 add 1 mM EDTA, pH 8.0

Tris-Buffered Saline (TBS):

1. To 100 mM Tris·Cl, pH 7.5 add 0.9% (w/v) NaCl
2. Store up to several months at 4°C.

Author	Management Approval/Date	Effective Date