

**Human Erythrocyte Lysing Solution**

**(Ammonium Chloride Lysing Solution, 10x)**

(McCoy, J.P., 1998. Handling, storage and preparation of human blood cells.  
*Curr. Protocol. Cytom.* 5:5.1.1-5.1.13)

**Reagents:**

80.2 g  $\text{NH}_4\text{Cl}$  (1.5 M)  
8.4 g  $\text{NaHCO}_3$  (100 mM)  
3.7 g disodium EDTA (10 mM)  
Distilled Water  
1 N HCl  
1 N NaOH

**Method:**

- 1) Combine  $\text{NH}_4\text{Cl}$ ,  $\text{NaHCO}_3$  and disodium EDTA in 900ml distilled water. Mix to dissolve completely.
- 2) Adjust to pH 7.4 with 1 N HCl or 1 N NaOH.
- 3) Add distilled water to 1 liter final volume.

Store  $\leq 6$  months at 4° C

**Working solution:** Dilute 1:10 with distilled water. Make working lysing solution fresh before each use. Keep working solution cold and discard any unused portion.

**Notes:**

- *This solution is used to lyse erythrocytes.*
- *Never store lysing solution at <10x concentration, as it will form ammonium carbonate, which is ineffective.*
- *Sodium bicarbonate may be replaced by 10 g  $\text{KHCO}_3$  (100 mM) and disodium EDTA by 3.66 g tetrasodium EDTA (8.2 mM). If desired, lysing solution may be adjusted to a specific pH using 1 N HCl or 1 N NaOH.*
- *Some researchers prefer to use a 10-fold lower concentration of EDTA (1 mM disodium EDTA or 0.82 mM tetrasodium EDTA in the 10x recipe).*