Bench Dilution & Molarity Quick Reference

$$C_1V_1 = C_2V_2 \qquad V_1 = C_2V_2 \div C_1$$

COMMON STOCKS — PER 1 L FINAL

STOCK	TARGET · 1 L FINAL	STOCK	WATER
10× PBS	1× PBS	100 mL	900 mL
50× TAE	1× TAE	20 mL	980 mL
5 M NaCl	150 mM NaCl	30 mL	970 mL
1 M Tris-HCl	10 mM Tris	10 mL	990 mL

MOLARITY

M = mol / L

M = mass (g) / (MW (g/mol) × volume (L))

1 M = 1,000 mM = 1,000,000 µM

A260 · 1 CM PATH

dsDNA	50 µg/mL
RNA	40 µg/mL
ssDNA	33 µg/mL

HEMOCYTOMETER

cells/mL =

avg count × DF × 10^4

CFU · COUNTABLE RANGE

30–300

colonies / plate

ANTIBODY · 1:500

12 × 200 µL = 2.4 mL

4.8 µL antibody + 2,395.2 µL buffer