

Gold stock solution

[reference: Sigma Aldrich FAQ <http://www.sigmaaldrich.com/germany/faq.html>]

$$[(\% \times d) / MW] \times 10 = \text{Molarity}; = [(0,2\% \times 3,9) / 340] \times 10 = 0,0229 \text{ M} = 22,9 \text{ mM}$$

Where: % = Weight % of the acid;

d = Density of acid (specific gravity can be used if a density value is not available)

MW = Molecular weight of acid.

Goal = 120 ml 0.5 % Agarose solution which contains 10 mM AuCl₃ (for 11 agar plates)

AuCl₃ stock solution = 22,9 mM

We want 10 mM gold solution:

$$\frac{10 \text{ mmol} \times 0,12 \text{ l}}{1 \text{ l}} = 1,2 \text{ mmol}$$

so we need 1,2 mmol in 120 ml.

$$\frac{1,2 \text{ mmol}}{22,9 \text{ mmol/l}} = 0,0524 \text{ l} = 52,4 \text{ ml (of gold stock solution)}$$

Therefore we take 52,4 ml of the gold stock solution.

For a 0,5 % agarose solution we need in 120 ml

$$\frac{5 \text{ g} \times 0,12 \text{ l}}{1 \text{ l}} = 0,6 \text{ g}$$

0,6 g agarose.

Recepy

weight 0,6 g agarose

add 52,4 ml gold solution

add bidest water to a final volume of 120 ml