Question #81879, Biology, Genetics

Question:

You order a PCR primer from Eurofins Genomics. They deliver a tube with 35 nmoles of DNA in it. How much TE buffer do you need to turn it into a 100 μM freezer stock? Which pipettor should you use? To what should it be set?

Solution:

Molar concentration can be calculated from the equation:

$$C = \frac{v}{V}$$

where C – molar concentration, v – number of moles, V – volume.

From the equation:

$$V = \frac{v}{C}$$

As the required molar concentration is C = 100 μM, v = 35 nmol, then:

$$V = \frac{v}{C} = \frac{35\ nmol}{100\ \mu M} = \frac{35 \times 10^{-9} mol}{100 \times 10^{-6} M} = 0.35 \times\ 10^{-3} L = 350 \mu L$$

Answer:

To make the required freezer stock, **350 μL** should be added into a tube using a pipettor of the volume 1 mL set to 350 μL.