

GENETICS

HOW MUCH DNA MOLECULES ARE IN A PCR

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Size of diploid human genome: $2 \times 3 \text{ billion bp} = 6 \text{ billion bp}$

Average size of of nucleotides: $487 + 159 \text{ g/mol} = 646 \text{ g/mol}$

Single cell DNA amount: $6 \text{ billion} \times 646 \text{ g/mol} = 3.87 \text{ pg}$

In 25 ng PCR human genomic DNA : $25000 \text{ pg} / 3.87 \text{ pg} = 6459 \text{ copies}$

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