## Quiz 1. Molecular basis of life

1. If we know that $40 \%$ of a given double-stranded DNA sequence is A , what is a proportion for the rest of the nucleotides?
a. $40 \% \mathrm{G}, 10 \% \mathrm{~T}, 10 \% \mathrm{C}$
b. $40 \% \mathrm{~T}, 10 \% \mathrm{G}, 10 \% \mathrm{C}$
c. $40 \% \mathrm{G}, 15 \% \mathrm{C}, 5 \% \mathrm{~T}$
d. Insufficient data
2. What protein sequence will be transcribed and then translated from the following DNA sequence?

## AAAGGG

Transcription into:
Translation into:

|  | 2nd base in codon |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | U | C | A | G |  |  |
|  | U | Phe Phe Leu Leu | Ser <br> Ser <br> Ser <br> Ser | $\begin{aligned} & \hline \text { Tyr } \\ & \text { Tyr } \\ & \text { STOP } \\ & \text { STOP } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Cys } \\ & \text { Cys } \\ & \text { STop } \\ & \text { Trp } \\ & \hline \end{aligned}$ | U C A G |  |
|  | C | Leu <br> Leu <br> Leu <br> Leu | Pro <br> Pro <br> Pro <br> Pro | $\begin{aligned} & \hline \text { His } \\ & \text { His } \\ & \text { GIn } \\ & \text { Gln } \\ & \hline \end{aligned}$ | Arg <br> Arg <br> Arg <br> Arg | U C A G |  |
|  | A | $\begin{aligned} & \hline \mathrm{Ile} \\ & \mathrm{IIe} \\ & \mathrm{IIe} \\ & \text { Met } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Thr } \\ & \text { Thr } \\ & \text { Thr } \\ & \text { Thr } \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { Asn } \\ & \text { Asn } \\ & \text { Lys } \\ & \text { Lys } \\ & \hline \end{aligned}$ | Ser <br> Ser <br> Arg <br> Arg | U C A G |  |
|  | G | $\begin{aligned} & \text { Val } \\ & \text { Val } \\ & \text { Val } \\ & \text { Val } \end{aligned}$ | Ala Ala Ala Ala | $\begin{aligned} & \hline \text { Asp } \\ & \text { Asp } \\ & \text { Glu } \\ & \text { Glu } \end{aligned}$ | $\begin{aligned} & \hline \text { Gly } \\ & \text { Gly } \\ & \text { Gly } \\ & \text { Gly } \end{aligned}$ | U C A G |  |

