Transcription/Translation of DNA to Amino Acid Chain

Amino Acid Chart

First Base in Code Word	Second Base in Code Word: U	Second Base in Code Word: C	Second Base in Code Word: A	Second Base in Code Word: G	Third Base in Code Word
U	Phenylalanine Phenylalanine Leucine Leucine	Serine Serine Serine Serine	Tyrosine Tyrosine "Stop" codon "Stop" codon	Cysteine Cysteine "Stop" codon Tryptophan	U C A G
C	Leucine Leucine Leucine Leucine	Proline Proline Proline Proline	Histidine Histidine Glutamine Glutamine	Arginine Arginine Arginine Arginine	U C A G
A	Isoleucine Isoleucine Isoleucine Methionine	Threonine Threonine Threonine Threonine	Asparagine Asparagine Lysine Lysine	Serine Serine Arginine Arginine	U C A G
G	Valine Valine Valine Valine	Alanine Alanine Alanine Alanine	Aspartic Acid Aspartic Acid Glutamic Acid Glutamic Acid	Glycine Glycine Glycine Glycine	U C A G

Directions

Below is a DNA sequence. First, underline triplet codons. Then, under the codon, write the mRNA bases that would pair with the DNA codons (transcription). Change to tRNA. Finally, using the mRNA codons and the Amino Acid Chart, write the Amino Acid Sequence that the mRNA codes for (translation). The first DNA sequence has been done for you.

DNA Sequence (transcription)	TAC	*GCT*	*CGC*	*ATA*	*TTA*	*CGT*	*GCA*
mRNA Bases	AUG	____	____	____	____	____	____
tRNA Bases (translation)	UAC	____	____	____	____	____	____
Amino Acid	Methionine	____	____	____	____	____	____

******Remember to use the mRNA codon to find your amino acid sequence.***

© 2008 Kent ISD

Transcription/Translation of DNA to Amino Acid Chain

key

Amino Acid Chart

First Base in Code Word	U	C	A	G	Third Base in Code Word
U	Phenylalanine Phenylalanine Leucine Leucine	Serine Serine Serine Serine	Tyrosine Tyrosine "Stop" codon "Stop" codon	Cysteine Cysteine "Stop" codon Tryptophan	U C A G
C	Leucine Leucine Leucine Leucine	Proline Proline Proline Proline	Histidine Histidine Glutamine Glutamine	Arginine Arginine Arginine Arginine	U C A G
A	Isoleucine Isoleucine Isoleucine Methionine	Threonine Threonine Threonine Threonine	Asparagine Asparagine Lysine Lysine	Serine Serine Arginine Arginine	U C A G
G	Valine Valine Valine Valine	Alanine Alanine Alanine Alanine	Aspartic Acid Aspartic Acid Glutamic Acid Glutamic Acid	Glycine Glycine Glycine Glycine	U C A G
	U	C	A	G	

Second Base in Code Word

Directions

Below is a DNA sequence. First, underline triplet codons. Then, under the codon, write the mRNA bases that would pair with the DNA codons (transcription). Change to tRNA. Finally, using the mRNA codons and the Amino Acid Chart, write the Amino Acid Sequence that the mRNA codes for (translation). The first DNA sequence has been done for you.

DNA Sequence (transcription)	TAC	*GCT*	*CGC*	*ATA*	*TTA*	*CGT*	*GCA*
* mRNA Bases (codons)	AUG	CGA	GCG	UAU	AAU	GCA	CGU
tRNA Bases (translation) (anti-codons)	UAC	GCU	CGC	AUA	UUA	CGU	GCA
Amino Acid	Methionine	Arg	Ala	Tyr	Asp	Ala	Arg

****Remember to use the mRNA codon to find your amino acid sequence.*

© 2008 Kent ISD