

AP BIOLOGY 30
Protein Sequencing - Amino Acid Translation

Using the mRNA chart determine the provided amino acid sequence.

DNA	mRNA codon	tRNA anticodon	Amino Acid
TAC			
	UGA		
		GAG	
TTT			
	CAU		
		AUA	
GCG			
	GAA		
		UCA	
AAA			
	CUG		
		GCU	
CCC			
	GGG		
		UGG	
CAT			
	CGA		
		UUA	
GAG			
	UAG		

- (a) The first base in a codon is found along the left side of the chart.
- (b) The second base is at the top of the chart.
- (c) The third base in the codon is found along the right side of the chart.

First Letter	Second Letter				Third Letter
	U	C	A	G	
U	Phenylalanine	Serine	Tyrosine	Cysteine	U
	Phenylalanine	Serine	Tyrosine	Cysteine	C
	Leucine	Serine	Stop	Stop	A
	Leucine	Serine	Stop	Tryptophan	G
C	Leucine	Proline	Histidine	Arginine	U
	Leucine	Proline	Histidine	Arginine	C
	Leucine	Proline	Glutamine	Arginine	A
	Leucine	Proline	Glutamine	Arginine	G
A	Isoleucine	Threonine	Asparagines	Serine	U
	Isoleucine	Threonine	Asparagines	Serine	C
	Isoleucine	Threonine	Lysine	Arginine	A
	(start) methionine	Threonine	Lysine	Arginine	G
G	Valine	Alanine	Asparatate	Glycine	U
	Valine	Alanine	Asparatate	Glycine	C
	Valine	Alanine	Glutamate	Glycine	A
	Valine	Alanine	Glutamate	Glycine	G

- It is easy to use the table above to determine the amino acid code for the proteins that are being synthesized.

A Codon	mRNA Codon [transcription]	tRNA Anticodon [translation]	Amino Acid
CAT			
ACT			
CCG			
GAG			
GCT			
TAC			
AAG			
CGA			
TTA			
GCT			