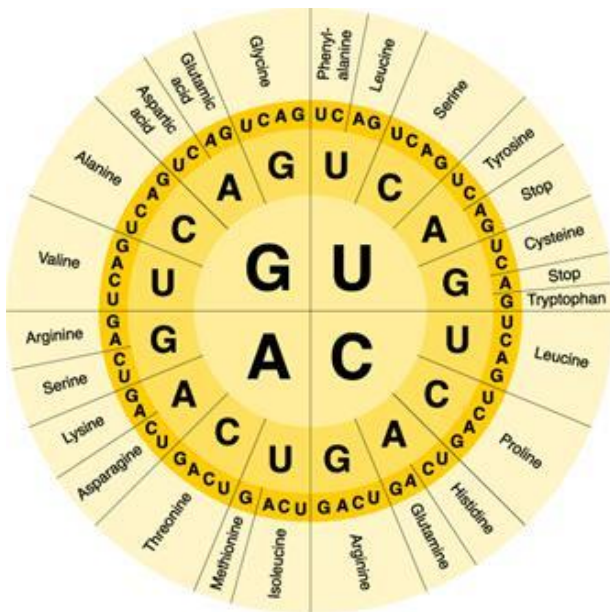


Coding for Protein

How to read an RNA codon to code for an amino acid and build a polypeptide chain. The START codon or AUG for MET or methionine begins the process of Translation and it continues until a STOP codon is reached. The code has been presented in two different ways but both give you the same result. Choose which works best for you to read and use.



		second base in codon				
		U	C	A	G	
first base in codon	U	UUU Phe	UCU Ser	UAU Tyr	UGU Cys	U
		UUC Phe	UCC Ser	UAC Tyr	UGC Cys	C
		UUA Leu	UCA Ser	UAA stop	UGA stop	A
		UUG Leu	UCG Ser	UAG stop	UGG Trp	G
C		CUU Leu	CCU Pro	CAU His	CGU Arg	U
		CUC Leu	CCC Pro	CAC His	CGC Arg	C
		CUA Leu	CCA Pro	CAA Gln	CGA Arg	A
		CUG Leu	CCG Pro	CAG Gln	CGG Arg	G
A		AUU Ile	ACU Thr	AAU Asn	AGU Ser	U
		AUC Ile	ACC Thr	AAC Asn	AGC Ser	C
		AUA Ile	ACA Thr	AAA Lys	AGA Arg	A
		AUG Met	ACG Thr	AAG Lys	AGG Arg	G
G		GUU Val	GCU Ala	GAU Asp	GGU Gly	U
		GUC Val	GCC Ala	GAC Asp	GGC Gly	C
		GUA Val	GCA Ala	GAA Glu	GGA Gly	A
		GUG Val	GCG Ala	GAG Glu	GGG Gly	G

A **TATA box** is a DNA **sequence** that indicates where a **genetic sequence** can be read and decoded. ... Proteins called transcription factors can bind to the **TATA box** and recruit an enzyme called RNA polymerase, which synthesizes RNA from DNA.

Single uncoiled DNA STRAND. Draw the mRNA made from this strand of DNA

PROMOTER

DNA CCCAGGGATATAGTTATTACCATGCCCTCACTGGGCCCCGCTAAGGC

RNA

Same strand continues on second line

DNA AAAAACAATGAACTCTTTCTTACACACGGGGGCCTCACGCGCCCAUU

RNA

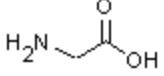
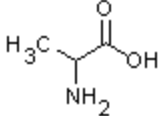
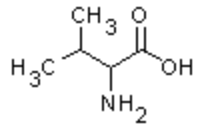
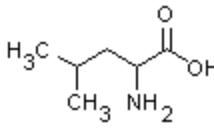
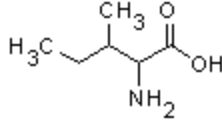
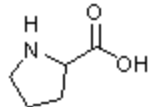
Find the START CODON and rewrite the mRNA from START to END codon

mRNA

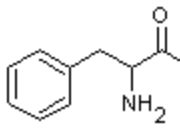
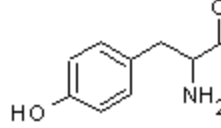
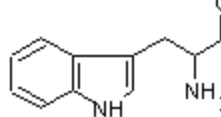
Read the CODONS in the mRNA to determine which amino acids to link together into a polypeptide chain

Amino acids

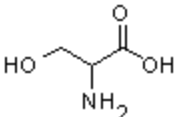
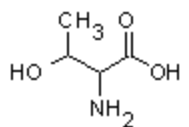
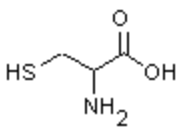
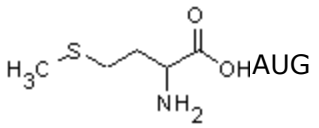
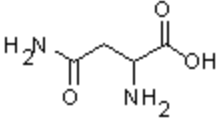
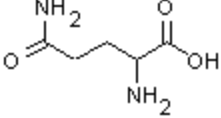
non-polar, aliphatic residues

Glycine	Gly	G		GGU GGC GGA GGG
Alanine	Ala	A		GCU GCC GCA GCG
Valine	Val	V		GUU GUC GUA GUG
Leucine	Leu	L		UUA UUG CUU CUC CUA CUG
Isoleucine	Ile	I		AUU AUC AUA
Proline	Pro	P		CCU CCC CCA CCG

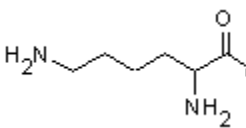
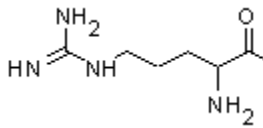
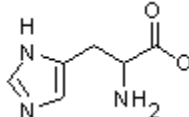
aromatic residues

Phenylalanine	Phe	F		UUU UUC
Tyrosine	Tyr	Y		UAU UAC
Tryptophan	Trp	W		CUGG

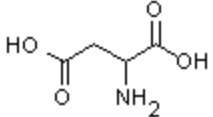
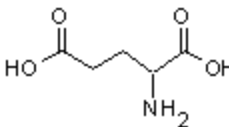
polar, non-charged residues

Serine	Ser	S		UCU UCC UCA UCG AGU AGC
Threonine	Thr	T		ACU ACC ACA ACG
Cysteine	Cys	C		UGU UGC
Methionine	Met	M		AUG
Asparagine	Asn	N		AAU AAC
Glutamine	Gln	Q		CAA CAG

positively charged residues

Lysine	Lys	K		AAA AAG
Arginine	Arg	R		CGU CGC CGA CGG AGA AGG
Histidine	His	H		CAU CAC

negatively charged residues

Aspartate	Asp	D		GAU GAC
Glutamate	Glu	E		GAA GAG