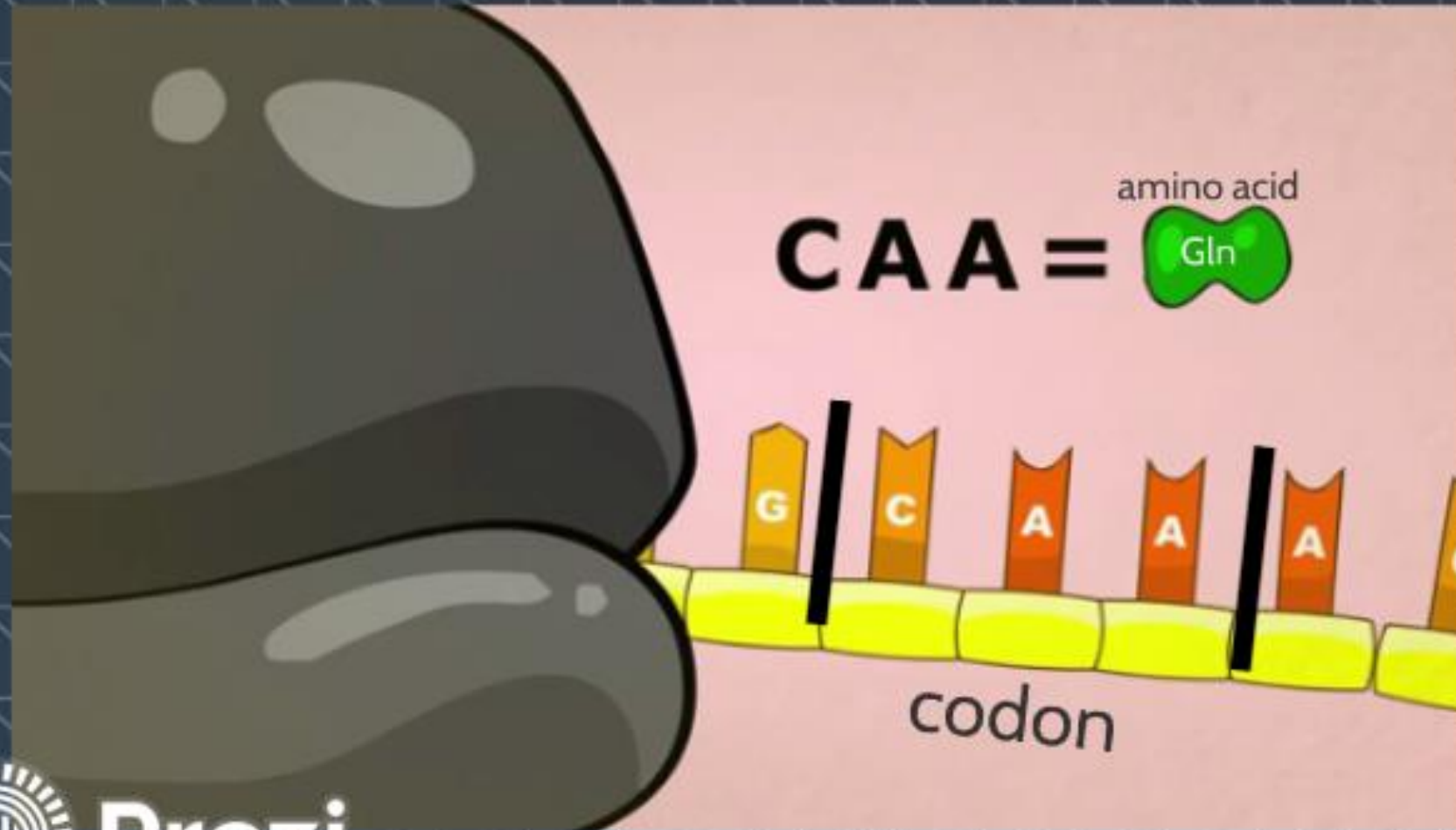


codon

A codon is a sequence of three DNA or RNA nucleotides that corresponds with a specific amino acid or stop signal during protein synthesis. DNA and RNA molecules are written in a language of four nucleotides; meanwhile, the language of proteins includes 20 amino acids. Codons provide the key that allows these two languages to be translated into each other. Each codon corresponds to a single amino acid (or stop signal), and the full set of codons is called the genetic code. The genetic code includes 64 possible permutations, or combinations, of three-letter nucleotide sequences that can be made from the four nucleotides. Of the 64 codons, 61 represent amino acids, and three are stop signals. For example, the codon CAG represents the amino acid glutamine, and TAA is a stop codon. The genetic code is described as degenerate, or redundant, because a single amino acid may be coded for by more than one codon. When codons are read from the nucleotide sequence, they are read in succession and do not overlap with one another.

What is a Codon?



mRNA is read 3 bases at a time; Each 3-base **codon** codes for 1 amino acid.



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AUG codes for???

- find the **first base** of the codon in the left column
- find the **second base** of the codon on the top of the chart
- find the **third base** of the codon in the right column


the point at which the rows/
column intersect in the table is
the amino acid for the codon

2 2nd base in codon

1 1st base in codon

	U	C	A	G	
U	Phe Phe Leu Leu	Ser Ser Ser Ser	Tyr Tyr STOP STOP	Cys Cys STOP Trp	U C A G
C	Leu Leu Leu Leu	Pro Pro Pro Pro	His His Gln Gln	Arg Arg Arg Arg	U C A G
A	Ile Ile Ile Met	Thr Thr Thr Thr	Asn Asn Lys Lys	Ser Ser Arg Arg	U C A G
G	Val Val Val Val	Ala Ala Ala Ala	Asp Asp Glu Glu	Gly Gly Gly Gly	U C A G

3 3rd base in codon



circle codon charts

read circle
charts from the
inside out

GUU = Valine



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