

## FIGURE 8.13 Genetic Code: mRNA Codons

The genetic code matches each mRNA **codon** with its amino acid or function.

Suppose you want to determine which amino acid is encoded by the CAU codon.

- 1 Find the first base, C, in the left column.
- 2 Find the second base, A, in the top row. Find the box where these two intersect.
- 3 Find the third base, U, in the right column. CAU codes for histidine, abbreviated as His.

		Second base								
		U		C		A		G		
First base	U	UUU	phenylalanine (Phe)	UCU	serine (Ser)	UAU	tyrosine (Tyr)	UGU	cysteine (Cys)	U
	UUC		UCC			UAC		UGC		C
	UUA	leucine (Leu)	UCA			UAA	STOP	UGA	STOP	A
	UUG		UCG			UAG	STOP	UGG	tryptophan (Trp)	G
C	CUU	leucine (Leu)	CCU	proline (Pro)	CAU	histidine (His)	CGU	arginine (Arg)	U	
CUC			CCC			CAC			CGC	C
CUA			CCA			CAA	glutamine (Gln)		CGA	A
CUG			CCG			CAG			CGG	G
A	AUU	isoleucine (Ile)	ACU	threonine (Thr)	AAU	asparagine (Asn)	AGU	serine (Ser)	U	
AUC			ACC			AAC		AGC	C	
AUA		ACA			AAA	lysine (Lys)	AGA	arginine (Arg)	A	
AUG	methionine (Met)	ACG			AAG		AGG		G	
G	GUU	valine (Val)	GCU	alanine (Ala)	GAU	aspartic acid (Asp)	GGU	glycine (Gly)	U	
GUC			GCC			GAC			GGC	C
GUA			GCA			GAA	glutamic acid (Glu)		GGA	A
GUG			GCG			GAG			GGG	G
								Third base		

**A Apply** Which amino acid would be encoded by the mRNA codon CGA?