

Single-Letter, Triple-Letter, Genetic Codes

Purine, Pyrimidine Bases

A	Adenine
G	Guanine
C	Cytosine
T	Thymine
U	Uracil
R	Purine (A or G)
Y	Pyrimidine (C or T)
N	Any nucleotide
W	Weak (A or T)
S	Strong (G or C)
M	Amino (A or C)
K	Keto (G or T)
B	Not A (G or C or T)
H	Not G (A or C or T)
D	Not C (A or G or T)
V	Not T (A or G or C)

Amino Acids

A	Ala
R	Arg
N	Asn
D	Asp
C	Cys
Q	Gln
E	Glu
G	Gly
H	His
I	Ile
L	Leu
K	Lys
M	Met
F	Phe
P	Pro
S	Ser
T	Thr
W	Trp
Y	Tyr
V	Val
B	Asx
Z	Glx
U	Sec
X	Unk

Genetic Code

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