

One-letter code

IUPAC/IUB Codes

Nucleotide Code:	Base:
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A.....	Adenine
C.....	Cytosine
G.....	Guanine
T (or U).....	Thymine (or Uracil)
R.....	A or G
Y.....	C or T
S.....	G or C
W.....	A or T
K.....	G or T
M.....	A or C
B.....	C or G or T
D.....	A or G or T
H.....	A or C or T
V.....	A or C or G
N.....	any base
. or -.....	gap

Amino Acid Code:	Three letter Code:	Amino Acid:
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A.....	Ala.....	Alanine
B.....	Asx.....	Aspartic acid or Asparagine
C.....	Cys.....	Cysteine
D.....	Asp.....	Aspartic Acid
E.....	Glu.....	Glutamic Acid
F.....	Phe.....	Phenylalanine
G.....	Gly.....	Glycine
H.....	His.....	Histidine
I.....	Ile.....	Isoleucine
K.....	Lys.....	Lysine
L.....	Leu.....	Leucine
M.....	Met.....	Methionine
N.....	Asn.....	Asparagine
P.....	Pro.....	Proline
Q.....	Gln.....	Glutamine
R.....	Arg.....	Arginine
S.....	Ser.....	Serine
T.....	Thr.....	Threonine
V.....	Val.....	Valine
W.....	Trp.....	Tryptophan
X.....	Xaa.....	Any amino acid
Y.....	Tyr.....	Tyrosine
Z.....	Glx.....	Glutamine or Glutamic acid