**Single Letter Codes and DNA Codons for Amino Acids**

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| Amino Acid | Single LetterCode |  DNA Codons |
| Isoleucine |  I | ATT, ATC, ATA |
| Leucine  |  L | CTT, CTC, CTA, CTG, TTA, TTG |
| Valine |  V | GTT, GTC, GTA, GTG |
| Phenylalanine |  F | TTT, TTC |
| Methionine |  M | ATG |
| Cysteine  |  C | TGT, TGC |
| Alanine    |  A | GCT, GCC, GCA, GCG |
| Glycine  |  G | GGT, GGC, GGA, GGG |
| Proline |  P | CCT, CCC, CCA, CCG |
| Threonine    | T | ACT, ACC, ACA, ACG |
| Serine         | S | TCT, TCC, TCA, TCG, AGT, AGC |
| Tyrosine    | Y | TAT, TAC |
| Tryptophan    | W | TGG |
| Glutamine    | Q | CAA, CAG |
| Asparagine    | N | AAT, AAC |
| Histidine  | H | CAT, CAC |
| Glutamic acid  | E | GAA, GAG |
| Aspartic acid  | D | GAT, GAC |
| Lysine         | K | AAA, AAG |
| Arginine    | R | CGT, CGC, CGA, CGG, AGA, AGG |