## Universal Genetic Code Chart Messenger RNA Codons and the Amino Acids for Which They Code

| SECOND BASE |   |                                          |                          |                           |                          |                  |
|-------------|---|------------------------------------------|--------------------------|---------------------------|--------------------------|------------------|
|             | _ | U                                        | С                        | Α                         | G                        |                  |
| 1           | υ | UUU PHE UUC LEU                          | UCU<br>UCC<br>UCA<br>UCG | UAU TYR UAC STOP UAA STOP | UGU CYS UGC STOP UGG TRP | UCAG             |
| FIRST       | С | CUU<br>CUC<br>CUA<br>CUG                 | CCU<br>CCC<br>CCA<br>CCG | CAU HIS CAC GLN CAG       | CGU<br>CGC<br>CGA<br>CGG | U C A G          |
| BASE        | A | AUU } AUC } ILE AUA } AUG } MET or START | ACU<br>ACC<br>ACA<br>ACG | AAU ASN AAC LYS AAA LYS   | AGU SER AGC AGA AGG ARG  | U C A G          |
|             | G | GUU<br>GUC<br>GUA<br>GUG                 | GCU<br>GCC<br>GCA<br>GCG | GAU ASP GAC GAA GLU GAG   | GGU<br>GGC<br>GGA<br>GGG | U<br>C<br>A<br>G |
|             |   |                                          |                          |                           |                          |                  |