

1. Of the 26 letters of the English alphabet, circle the ones that symbolize naturally occurring amino acids regularly incorporated into proteins:

A B C D E F G H I J K L
M N O P Q R S T U V W X
Y Z

2. Circle the letters that represent amino acids with nonpolar sidechains:

A B C D E F G H I J K L
M N O P Q R S T U V W X
Y Z

3. Circle the letters that represent an amino acid which acts as a nucleophile in serine proteases:

A B C D E F G H I J K L
M N O P Q R S T U V W X
Y Z

4. Circle the letters that represent amino acids with a positively charged sidechain at pH 5.0:

A B C D E F G H I J K L
M N O P Q R S T U V W X
Y Z

5. Circle the letters that represent the aromatic amino acids:

A B C D E F G H I J K L
M N O P Q R S T U V W X
Y Z