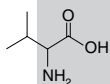


Non-polar R groups

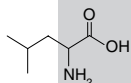
Alanine Ala, A



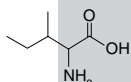
Valine Val, V



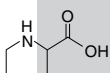
Leucine Leu, L



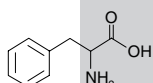
Isoleucine Ile, I



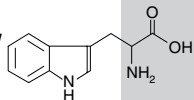
Proline Pro, P



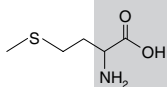
Phenylalanine Phe, F



Tryptophan Trp, W

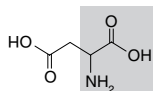


Methionine Met, M

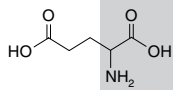


Acidic R groups

Aspartic acid Asp, D



Glutamic acid Glu, E

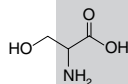


Polar R groups

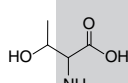
Glycine Gly, G



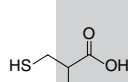
Serine Ser, S



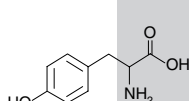
Threonine Thr, T



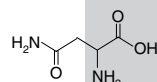
Cysteine Cys, C



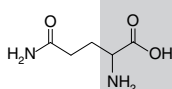
Tyrosine Tyr, Y



Asparagine Asn, N

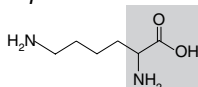


Glutamine Gln, Q

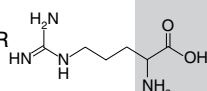


Basic R groups

Lysine Lys, K



Arginine Arg, R



Histidine His, H

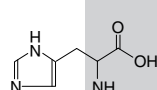


Figure 8.7. Structures of the individual protein amino acids. Shaded area indicates the common structure present in all amino acids while the R-group is given to the left. Amino acids are also classified by the functionality of their R-group into non-polar, polar, acidic and basic categories.