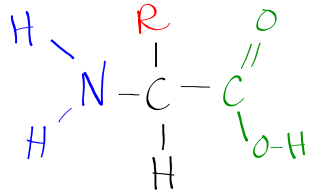
Proteins CHONS

- monomer = amino acid (a.a.)
- 20 different a.a.
- all a.a. have same basic structure

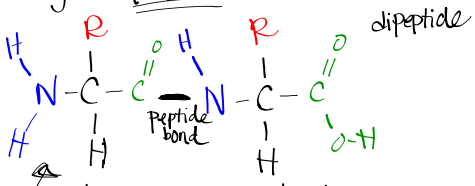


Carbon is bonded to 4 parts
1) hydrogen
2) amino group (NH_2)
3) carboxyl group (COOH)
4) R group

functional groups

* a.a. differ in their R group

- end in "ine"
- a.a. bond to other a.a. by peptide bonds

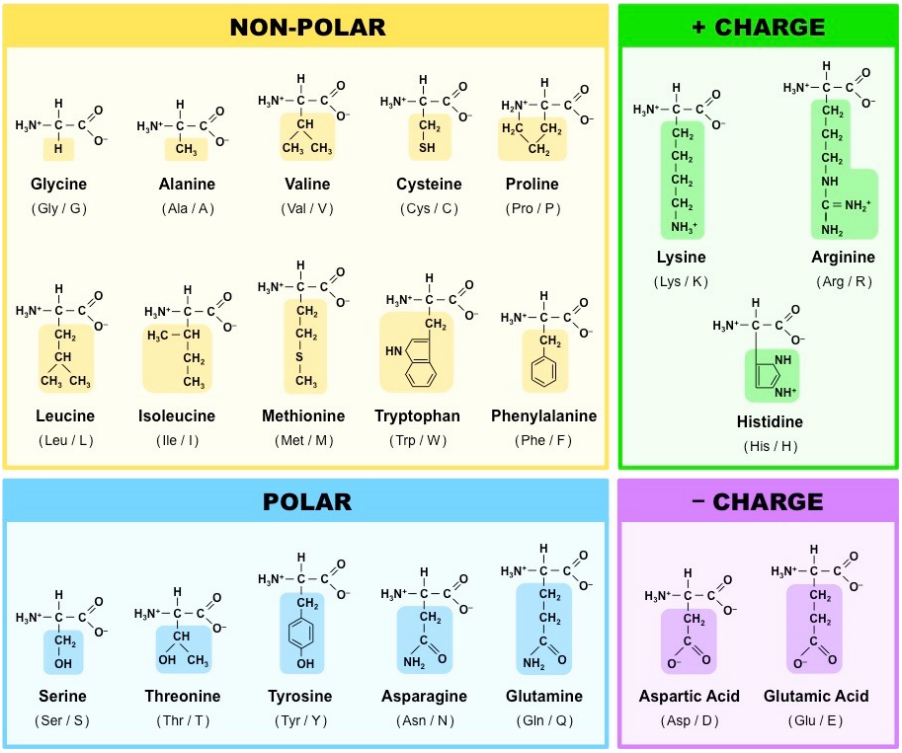


H_2O is a product condensation

- polymer = polypeptide
- proteins differ in the amount of a.a. & order of a.a.

Types of protein - Functions

- defensive protein
  ex: antibody : fights off foreign particles
- enzymes : speeds up chemical reactions
- hormonal & regulatory proteins: help w/ a physiological processes
  ex: insulin
- structural
  ex: collagen
- transport & storage
  ex: hemoglobin


NON-POLAR
Glycine
(Gly / G)
Alanine
(Ala / A)
Valine
(Val / V)
Cysteine
(Cys / C)
Proline
(Pro / P)
Leucine
(Leu / L)
Isoleucine
(Ile / I)
Methionine
(Met / M)
Tryptophan
(Trp / W)
Phenylalanine
(Phe / F)
+ CHARGE
Lysine
(Lys / K)
Arginine
(Arg / R)
Histidine
(His / H)
POLAR
Serine
(Ser / S)
Threonine
(Thr / T)
Tyrosine
(Tyr / Y)
Asparagine
(Asn / N)
Glutamine
(Gln / Q)
− CHARGE
Aspartic Acid
(Asp / D)
Glutamic Acid
(Glu / E)