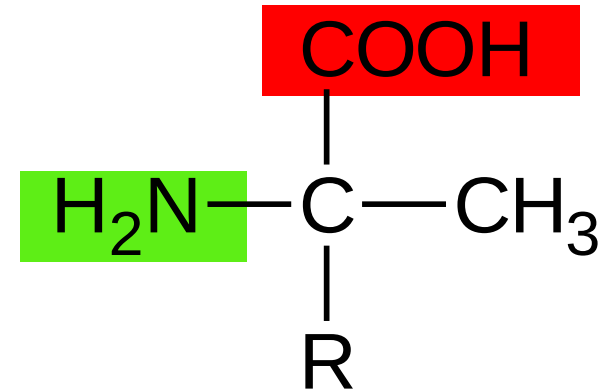


Aminosäuren (AS)

- 2 funktionelle Gruppen:

- Aminogruppe: -NH_2

- Säuregruppe: -COOH



- Bausteine der Proteine

- Hydrolyse von Proteinen:

Spaltung durch Einwirkung von Wasser

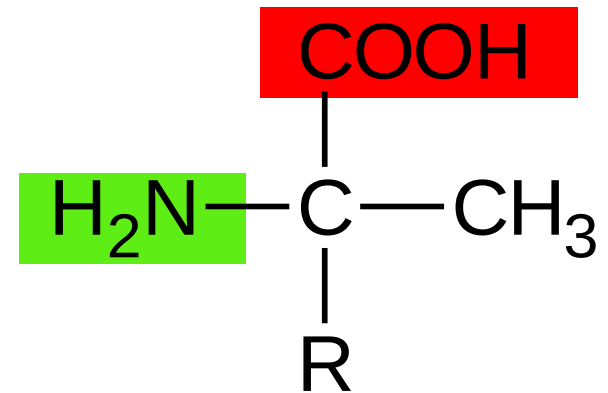
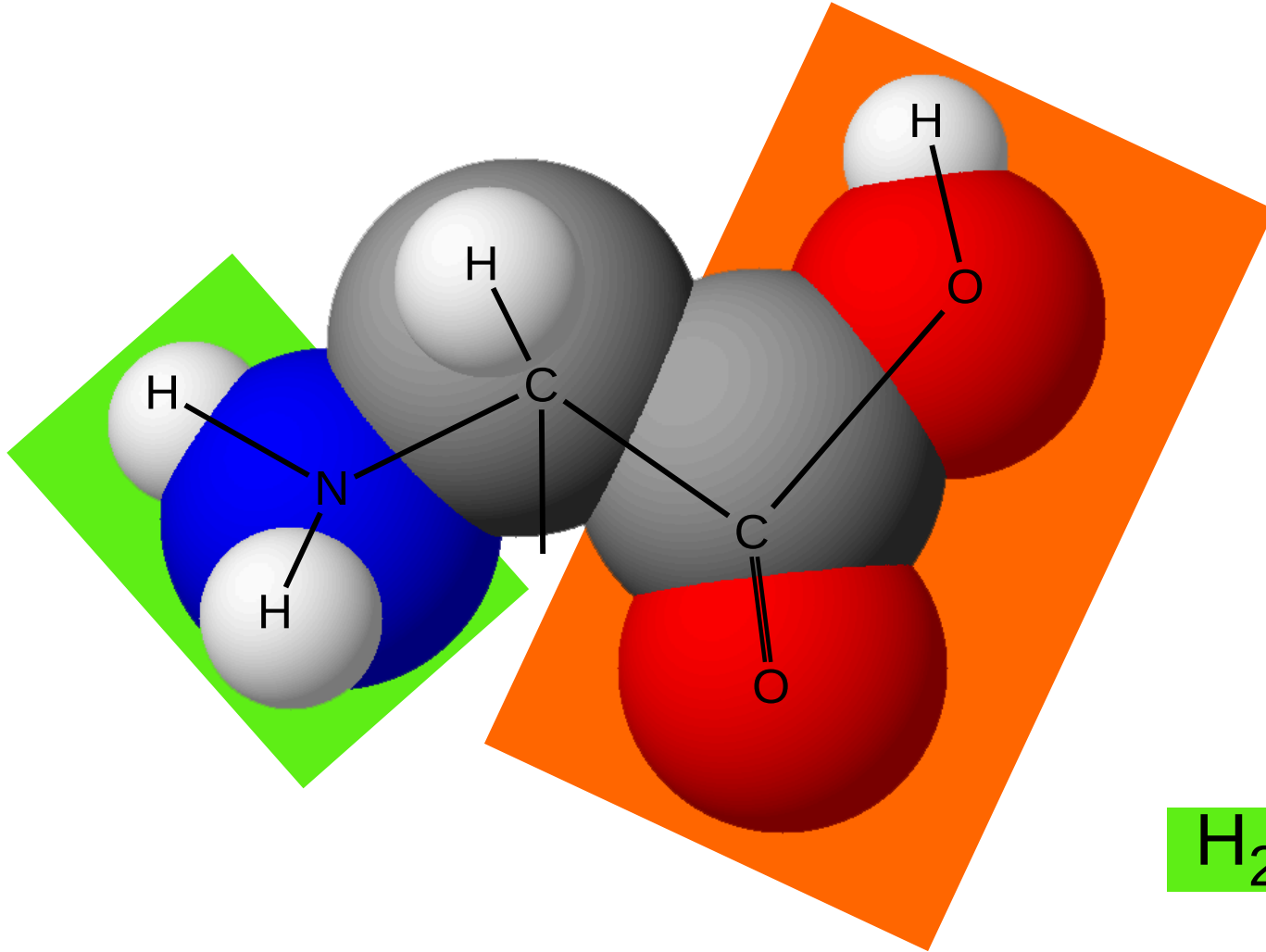
- 20 verschiedene Aminosäuren entstehen

- 8 AS kann der menschl. Organismus nicht produzieren:

- essentielle (AS)

- Aufnahme über die Nahrung

Aminosäuren



Aminosäuren

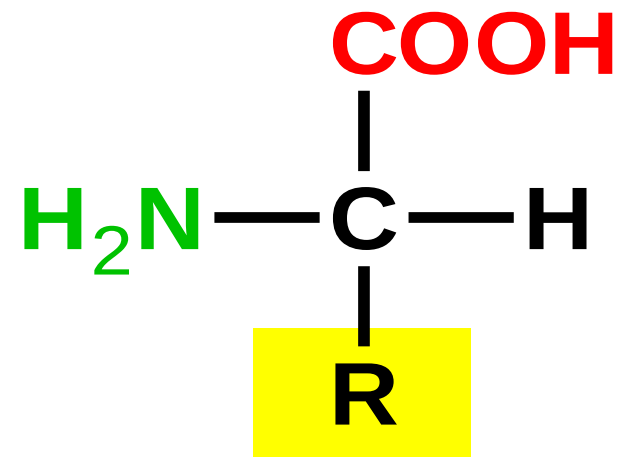
- Allgemein

- α -Aminosäure
- Reste verschieden

2-Aminocarbonsäuren
(-NH₂ und -COOH am
gleichen C-Atom)

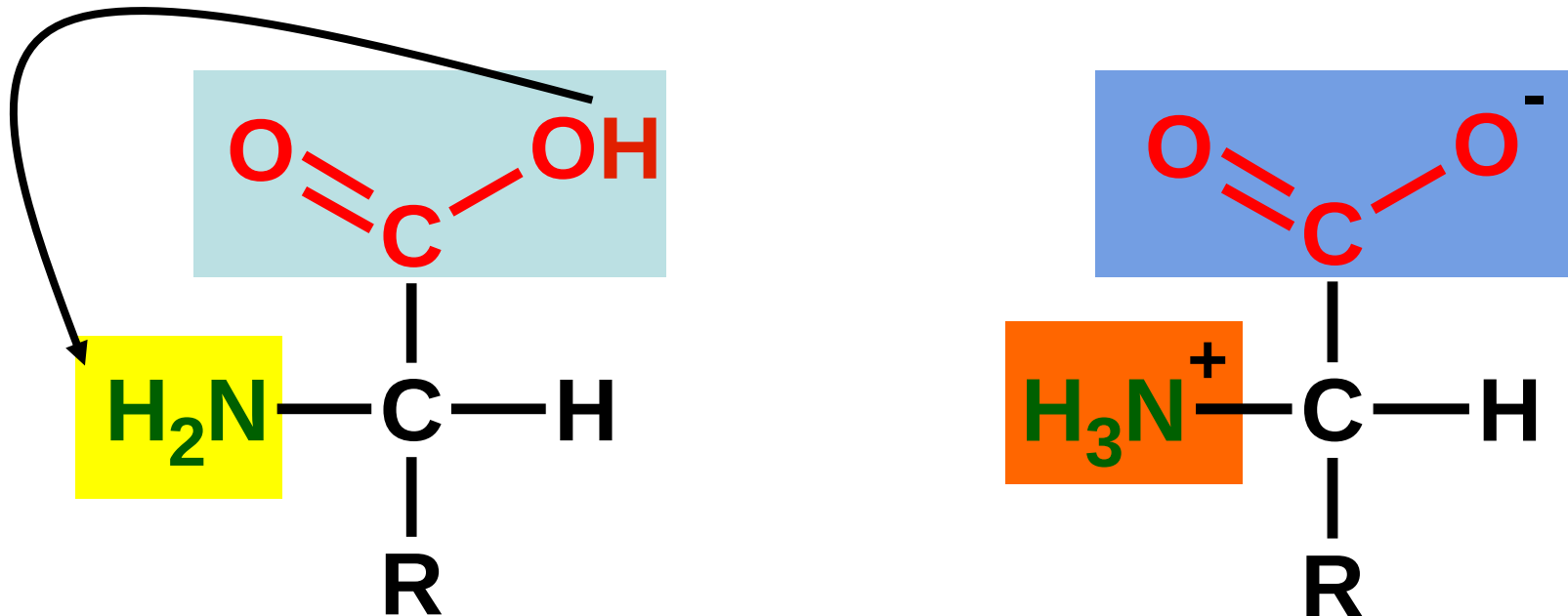
- Einteilung der Seitenketten (Reste)

- Unpolare Aminosäuren
- Polare Aminosäuren
- Saure Aminosäuren
- Basische Aminosäuren



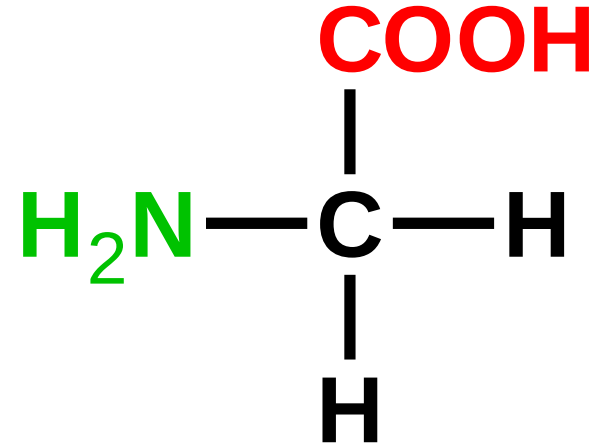
Aminosäuren im Wasser

- Proton der Carboxylgruppe wandert zur Aminogruppe
- → Zwitterion
 - Carboxylgruppe => Carboxylat-Gruppe
 - Aminogruppe => Ammoniumgruppe



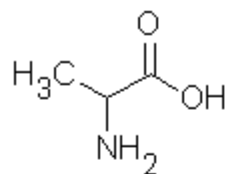
Aminosäuren

- Glycin
 - Einfachste Aminosäure
 - Aminoethansäure

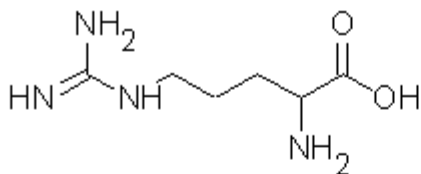


- Essentielle Aminosäuren

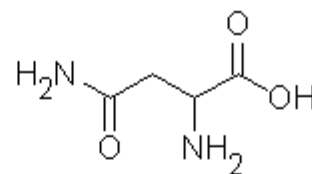
Valin, Leucin, Isoleucin, Phenylalanin,
Methionin, Lysin, Threonin, Tryptophan,



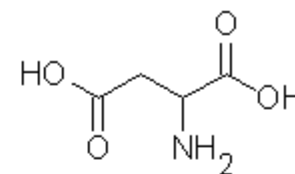
Alanin (Ala)



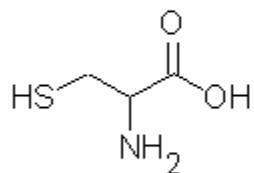
Arginin (Arg)



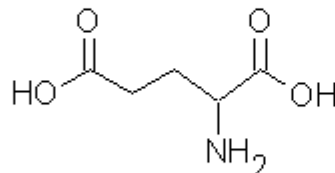
Asparagin (Asn)



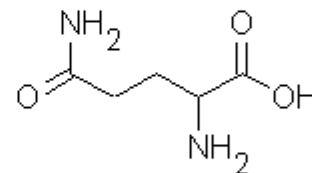
Asparaginsäure (Asp)



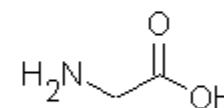
Cystein (Cys)



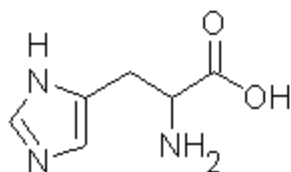
Glutaminsäure (Glu)



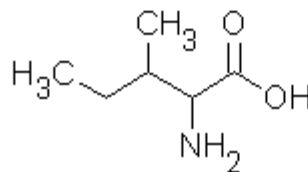
Glutamin (Gln)



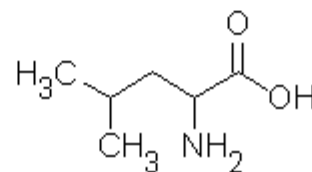
Glycin (Gly)



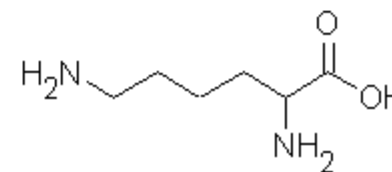
Histidin (His)



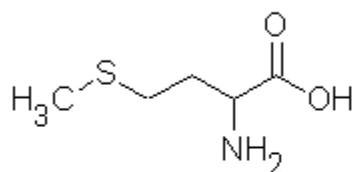
Isoleucin (Ile)



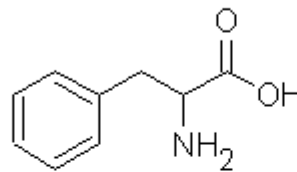
Leucin (Leu)



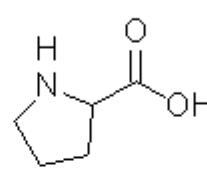
Lysin (Lys)



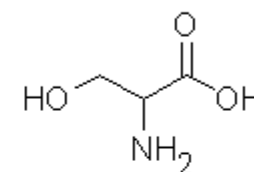
Methionin (Met)



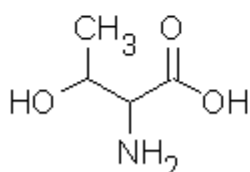
Phenylalanin (Phe)



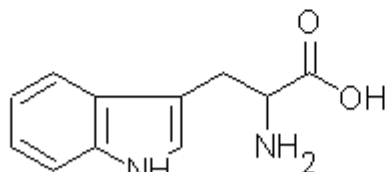
Prolin (Pro)



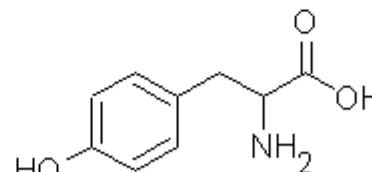
Serin (Ser)



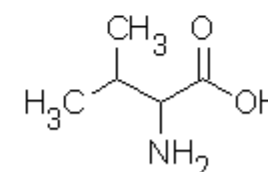
Threonin (Thr)



Tryptophan (Trp)



Tyrosin (Tyr)



Valin (Val)

Aminosäuren

- am α -C-Atom 4 verschiedene Substituenten
(Ausnahme: Glycin)
- asymmetrisches C-Atom
- L- und D-Form möglich
- in Proteinen nur L-Form
- → L- α -Aminosäuren

