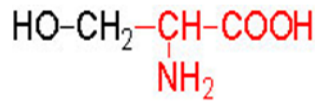


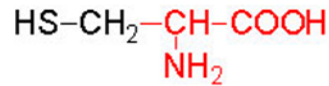
Proline

Neutral Amino Acids - Polar (Hydrophilic) R Groups

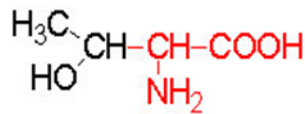
Serine (Ser)



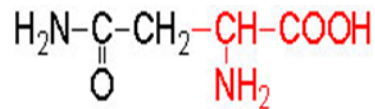
Cysteine (cys)



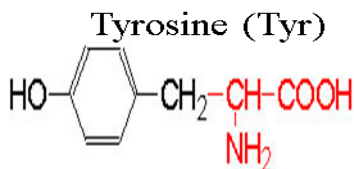
Threonine (Thr)



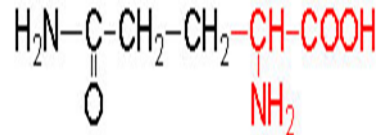
Asparagine (Asn)



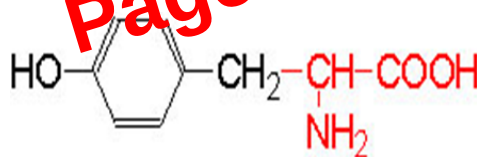
Tyrosine (Tyr)



Glutamine (Gln)

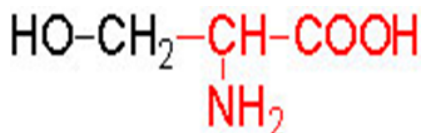


- **Tyrosine** is Phenylalanine with an extra hydroxyl (-OH) group attached
- It is **polar** and very weakly acidic. Tyrosine can play an important catalytic role in the active site of some enzymes. Reversible phosphorylation of -OH groups in some enzymes is important in the regulation of metabolic pathways.

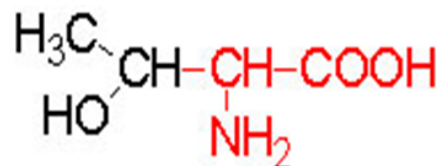


Tyrosine

- **Serine** and **Threonine** play important role in enzymes which regulate phosphorylation and energy metabolism.



Serine



Threonine