

وَأَنْتَ لَيْسَ لِلدِّينِ أَمْرٌ إِلَّا مَا سَعَى

Mays Aljundi ♥
peptides ♥

PEPTIDES

Functional and exceptional peptides:

- Carnosine (β -alanyl-L-histidine):

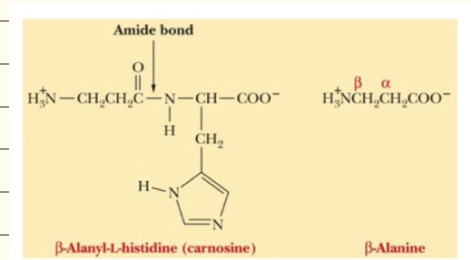
- Dipeptide of β -alanyl and L-histidine
- Amino group is bonded to β -carbon of alanine
- Found in a highly concentration in muscles and brain

Contraction
 protection of cells from radical oxygen species

الربط: Carno: هي جزيئة يتكون فيها ال (هس) و (هس) وهذا يثبت ألم

Alanyl

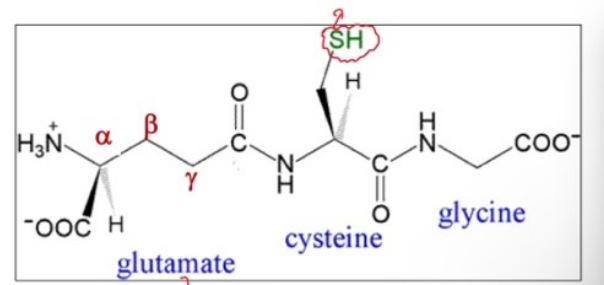
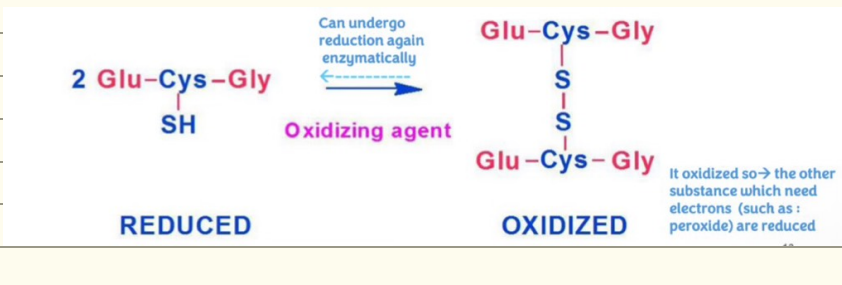
HiStidine



- Glutathione (γ -glutamyl-L-cysteinylglycine):

- Tripeptide consists of glutamate, cysteine and glycine
- It removes reactive oxygen species
- It scavenges oxidizing agents by reacting with them
- 2 molecules of reduced glutathione can form disulfide bond

الربط: Glu: هو جزيء في ازالة كل من glutamate و cysteine
 تكلمة ال كلمة هي glutathione اجمعها مع cysteine
 مع cysteine بعض استاتت كائنا كانت



- Enkephalins:

• 2 pentapeptides found in brain and function as analgesics

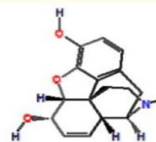
pain relievers

• They only differ in their C-terminal amino acids

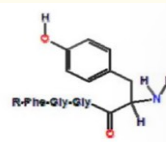
Met-enkephalin (Met)

Leu-enkephalin (Leu)

• The aromatic side chains of Tyr & phe play role in their activities



Morphine



Enkephalins

Morphine: anesthetic addictive
it is given for patients with calculated doses to guarantee avoiding addiction

- Oxytocin and vasopressin:

- Hormones with cyclic structure due to S-S link between Cys (by a covalent bond)
- Both have amide group at C-terminal
- Both contain 9 residues, but differ in 2:

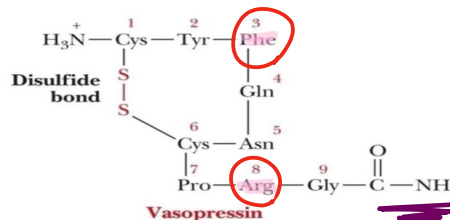
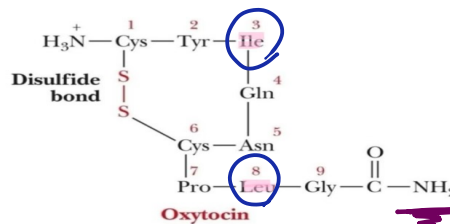
Oxytocin has Ile, Leu

Vasopressin has phe, Arg

الربط: oxy معناتها acid و acid
نقدر نوجد بها باء uterine fluid
Vaso لها علاقة بال vessels وهنزل
Smooth muscles

• Oxytocine regulates contraction of uterine muscles (Labor contraction)

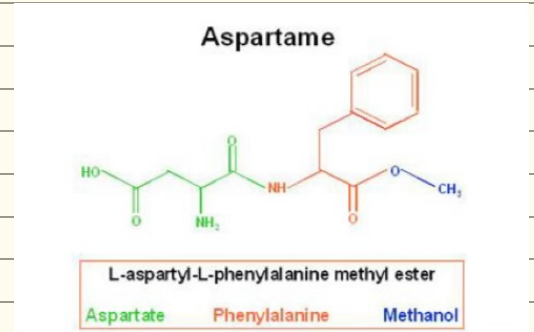
• Vasopressin regulates contraction of smooth muscles, increases water retention & increases blood pressure



- Aspartame (L-Aspartyl)-L-phenylalanine):

- It also called methyl ester
- Dipeptide that 200 sweeter than sugar
- If **D-amino acid** is substituted for either amino acid or for both, the resulting derivative is bitter sugar

الربطة : aspart هي نفاها ل aspart
بجربهم افترضوا عر اسمها tam
بجتي فين الينين؟ (Phenylalanine)



- Phenylketonuria (PKU):

- New borns are checked for PKU
 - PKU is hereditary (inborn error of metabolism), caused by defective enzyme ((phenylalanine hydroxylase))
 - It causes accumulation of phenylpyruvate
 - Source of phenylalanine such as aspartame must be limited
 - A substituted for aspartame known as alitame, contains alanine
- That causes mental retardation

