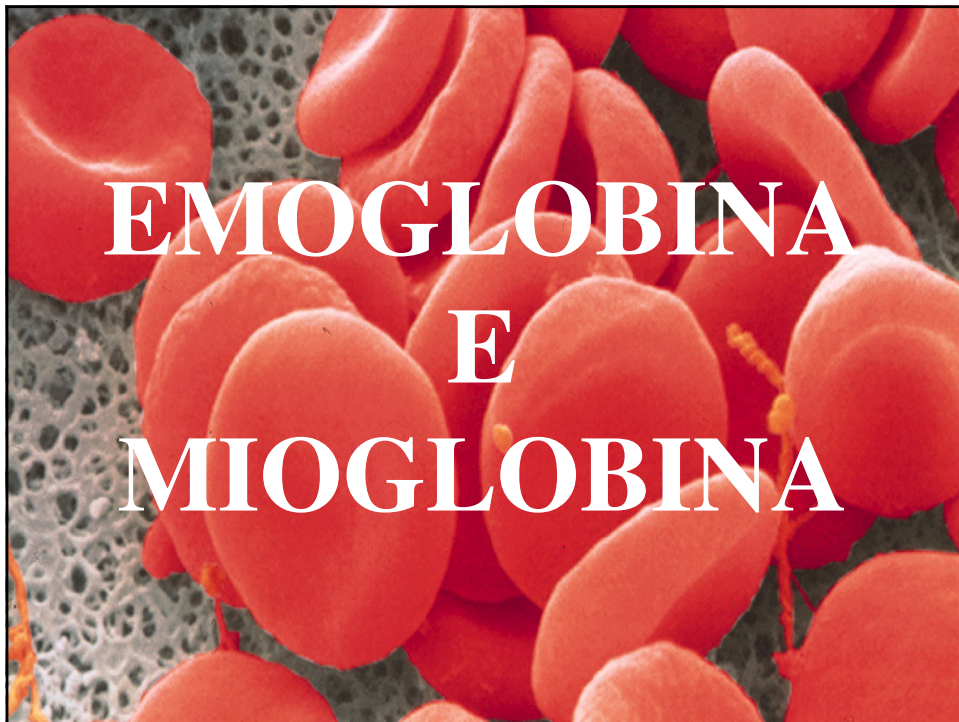
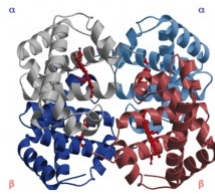




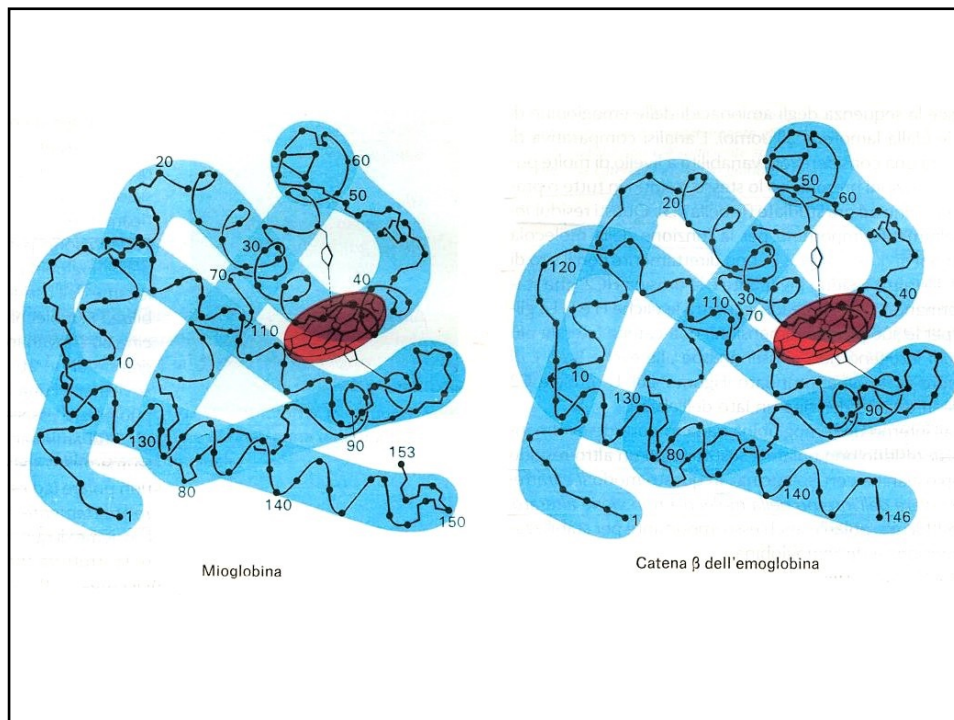
1

Proteine globulari



Esempio di relazione struttura funzione:
Il trasporto dell'ossigeno

2



3

MIOGLOBINA e EMOGLOBINA

...hanno diversa funzione metabolica specifica...

L'EMOGLOBINA trasporta l'ossigeno dai polmoni ai tessuti periferici, dove una parte di esso può essere direttamente utilizzata per il metabolismo.

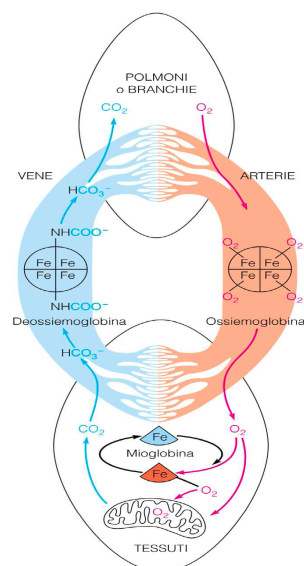
Un'altra parte può essere immagazzinata mediante il legame alla MIOGLOBINA e resa quindi disponibile quando la domanda di ossigeno da parte dei mitocondri dei tessuti periferici è forte.

A livello dei tessuti periferici l'EMOGLOBINA lega la CO_2 rilasciata dai processi ossidativi e la trasporta ai polmoni.

EMOGLOBINA - trasportatrice di ossigeno nel sangue

MIOGLOBINA - riserva di ossigeno nel muscolo

diversa affinità per l'ossigeno, diverso sistema di regolazione



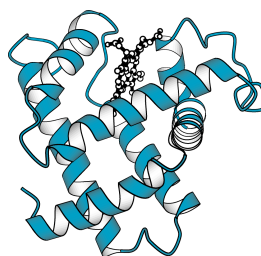
4

MIOGLOBINA e EMOGLOBINA

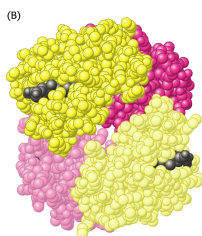
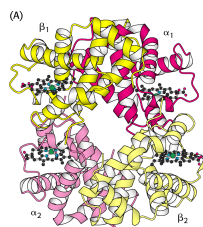
... e diversa struttura

EMOGLOBINA è un tetramero

MIOGLOBINA è un monomero

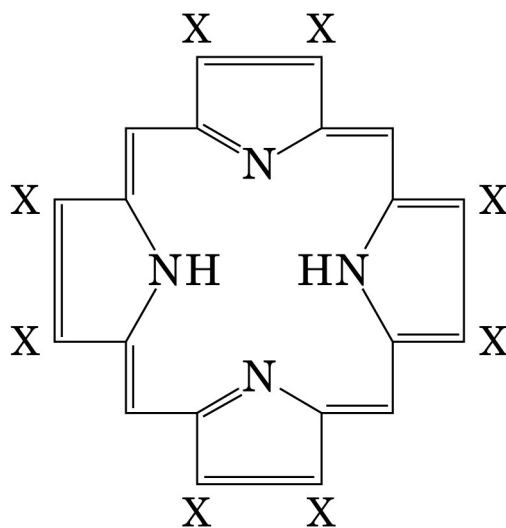


Mioglobina



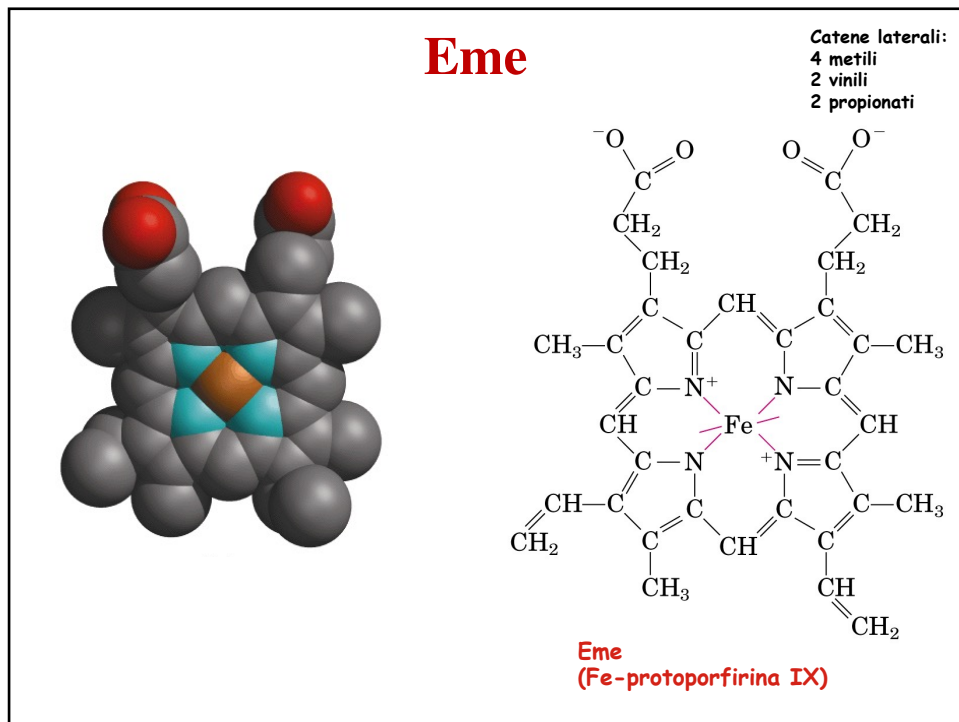
Emoglobina

5

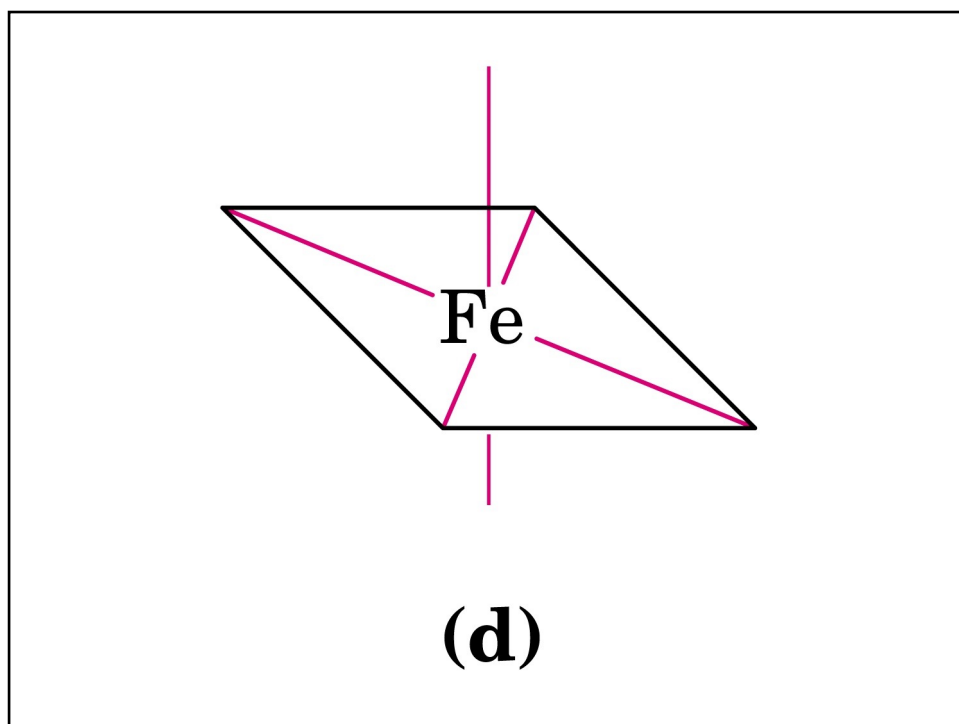


(a) PORFIRINE

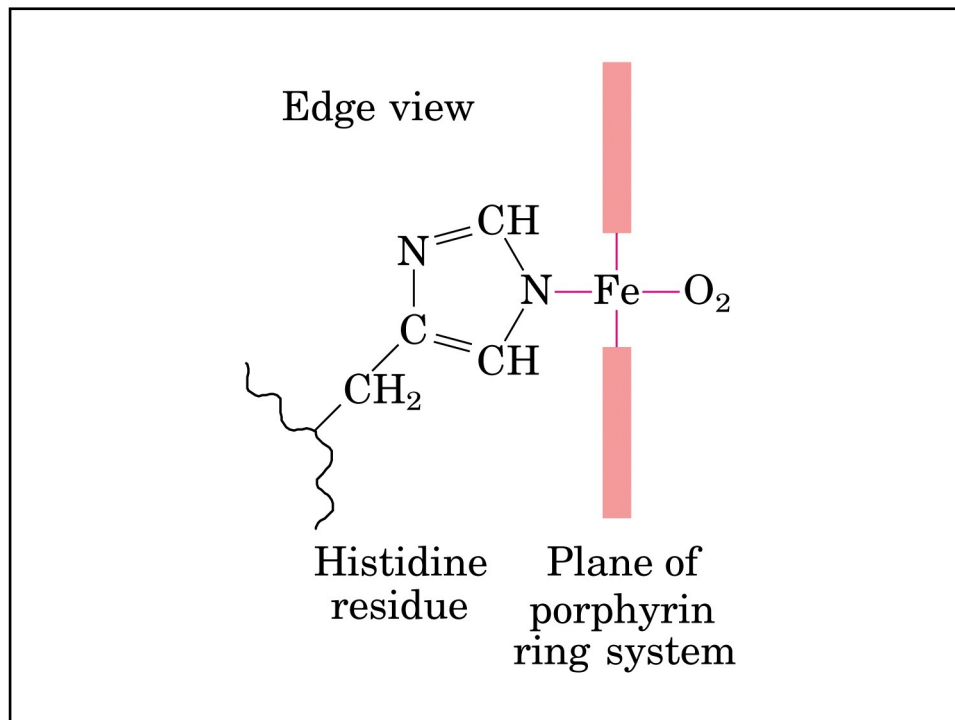
6



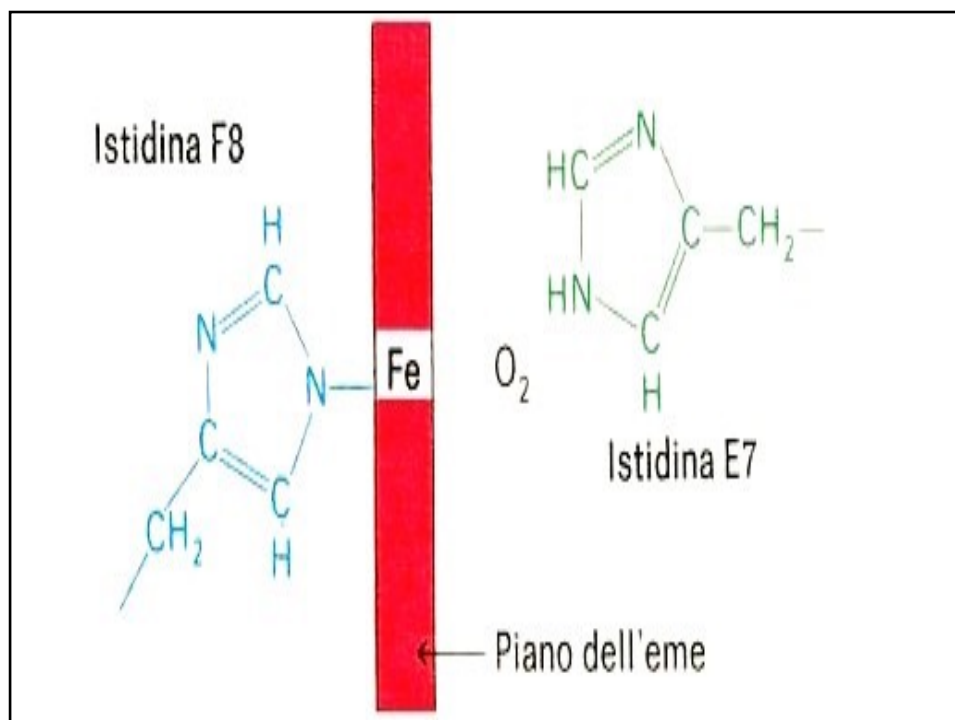
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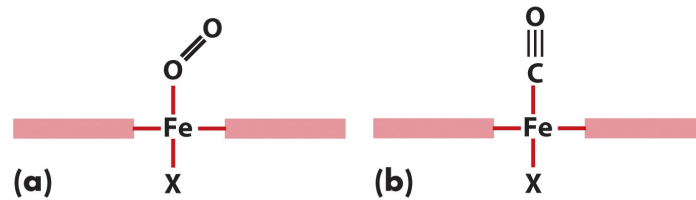
8



9



10



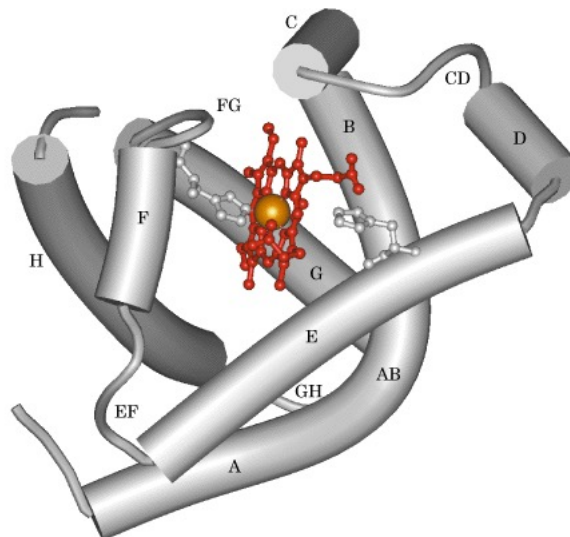
Il legame Fe-O₂ ha una geometria angolare, conformazione che si adatta agli spazi interni della mioglobina

Il legame Fe-CO ha una geometria lineare, perpendicolare al piano dell'eme

CO è un potente veleno proprio per la sua capacità di legarsi a ferroemoglobina e ferromioglobina bloccando il trasporto di O₂

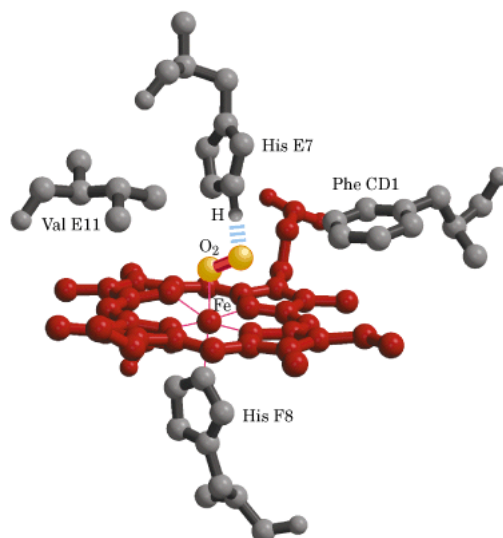
11

Struttura della mioglobina Mb



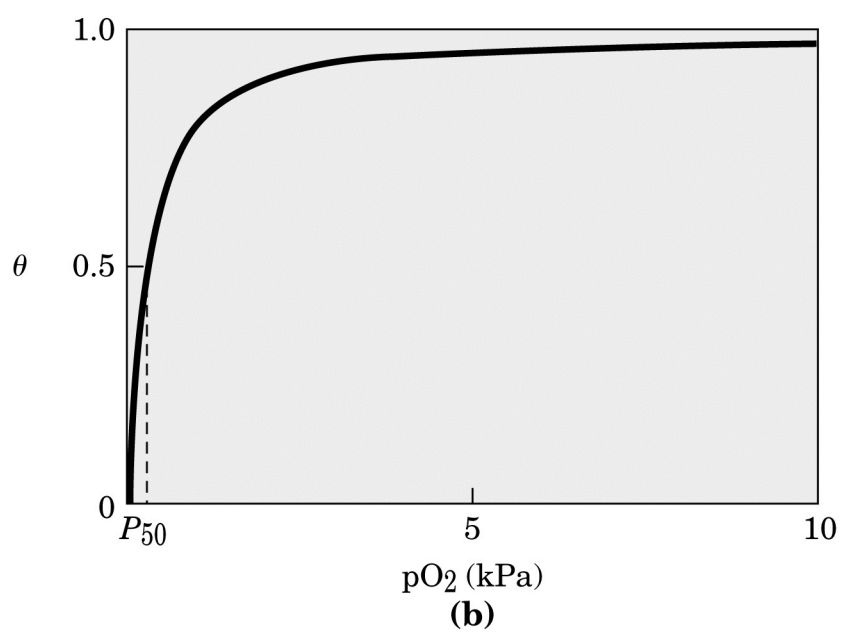
12

Effetti sterici sul legame di ligandi all'eme della mioglobina

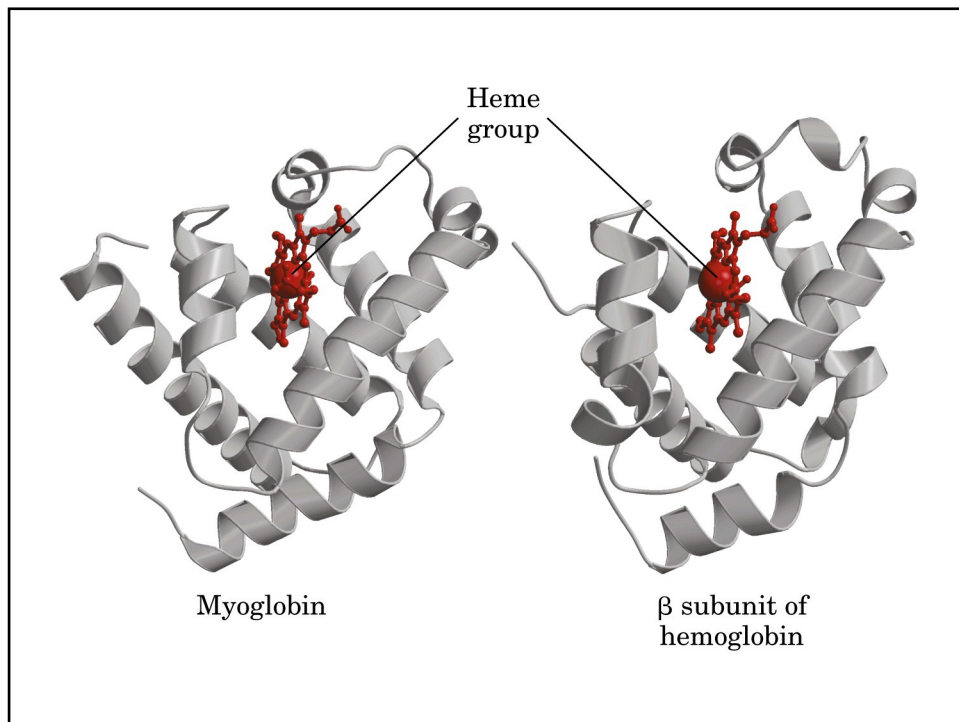


13

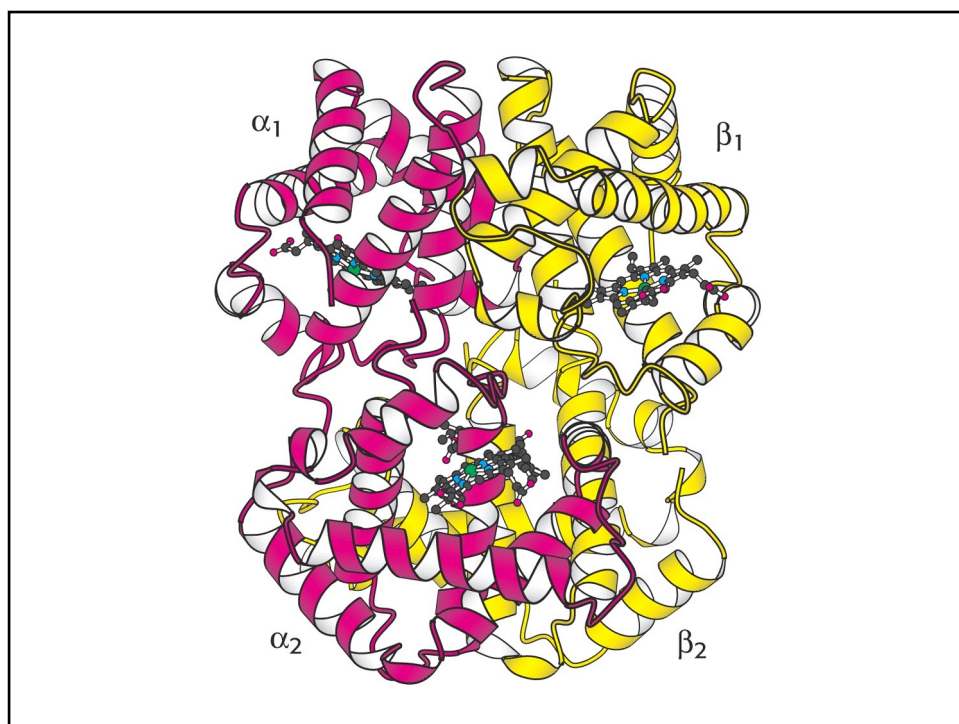
CURVA DI SATURAZIONE DELLA MIOGLOBINA



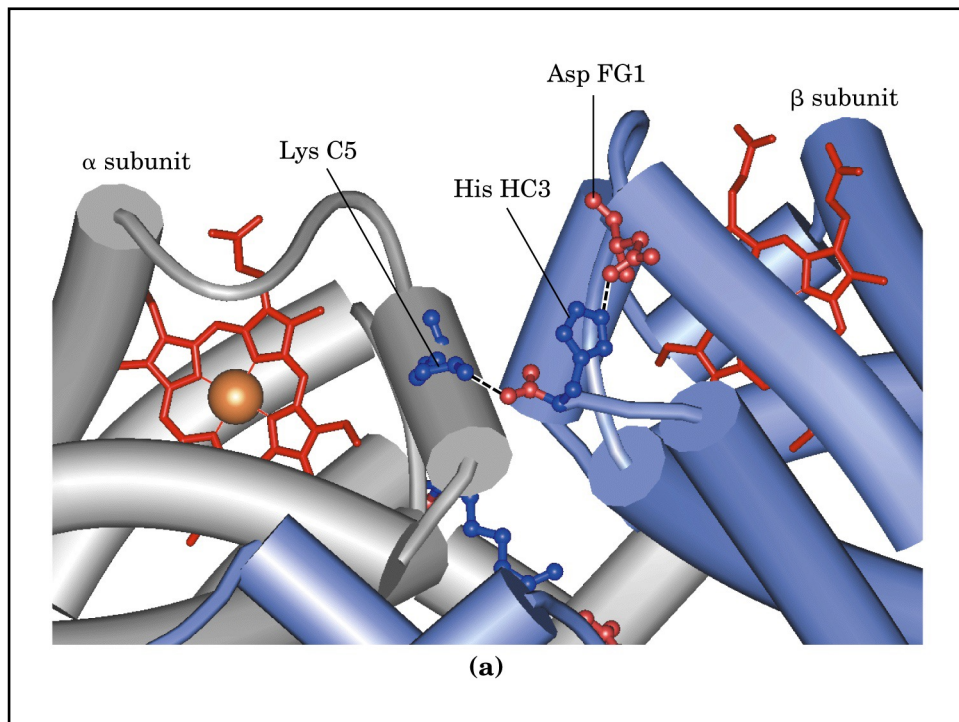
14



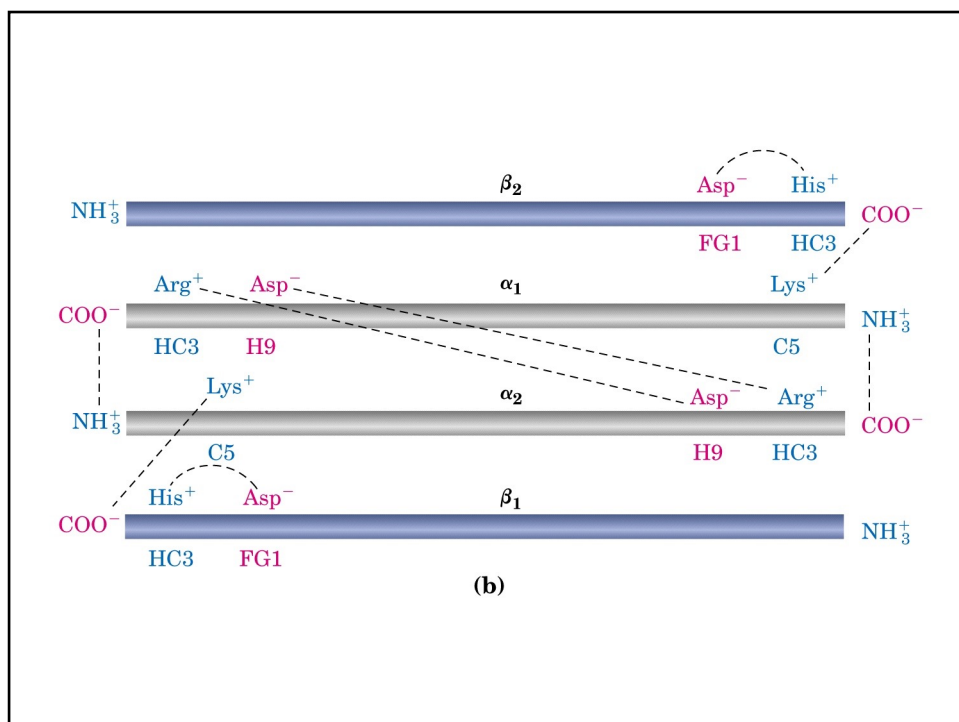
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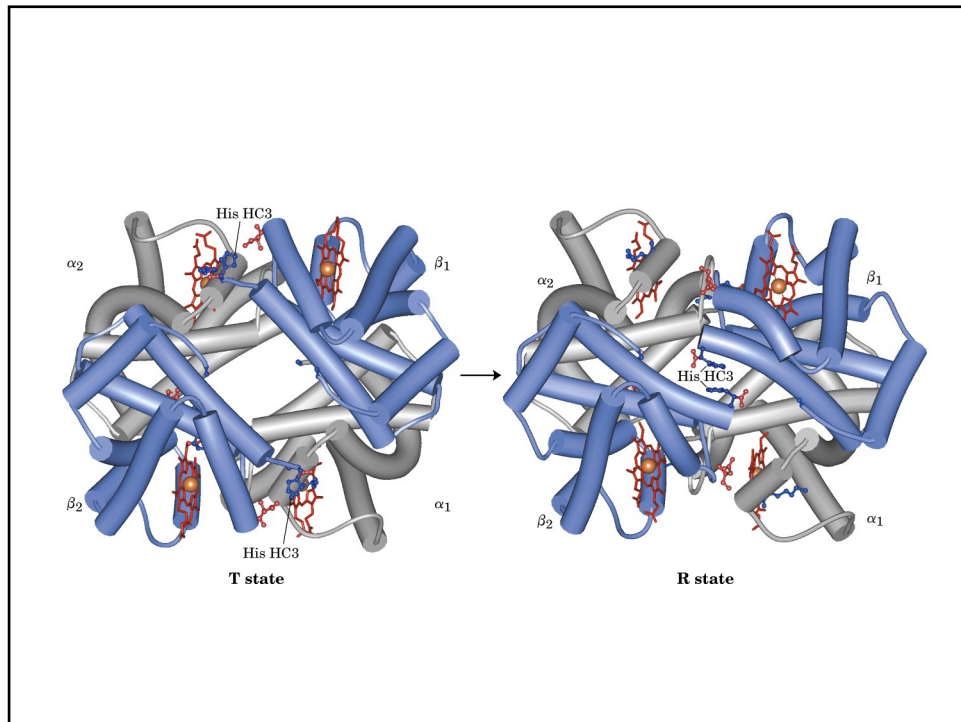
16



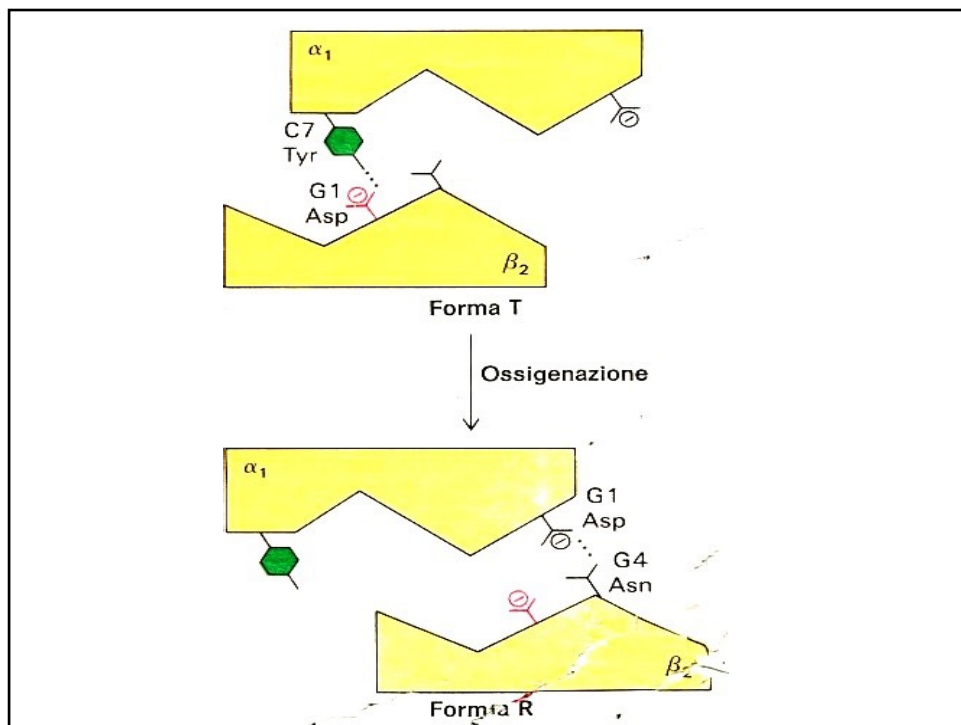
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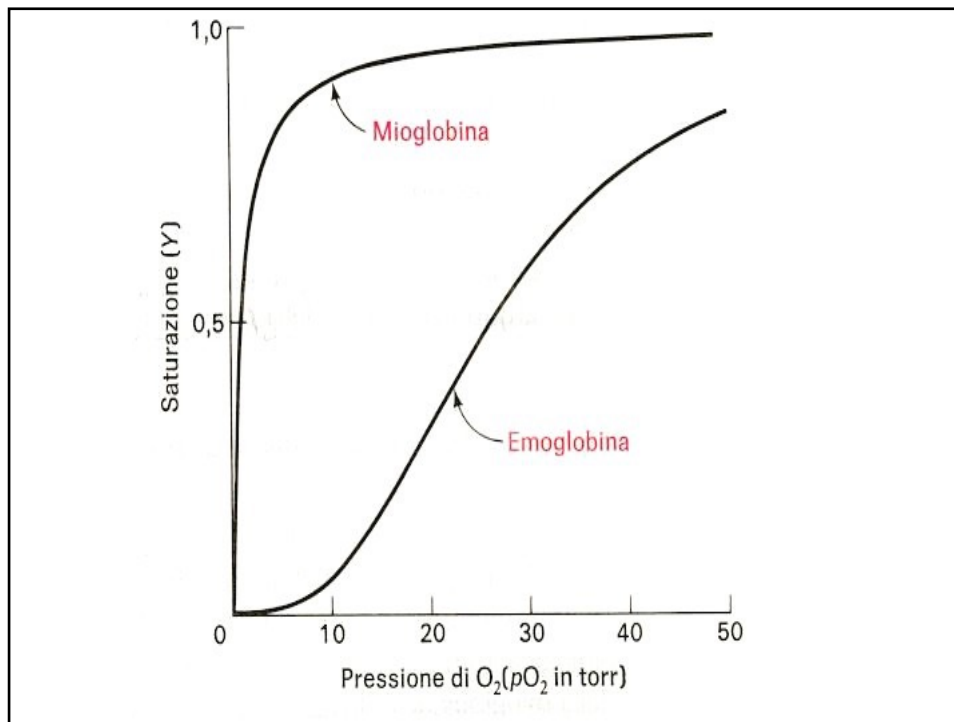
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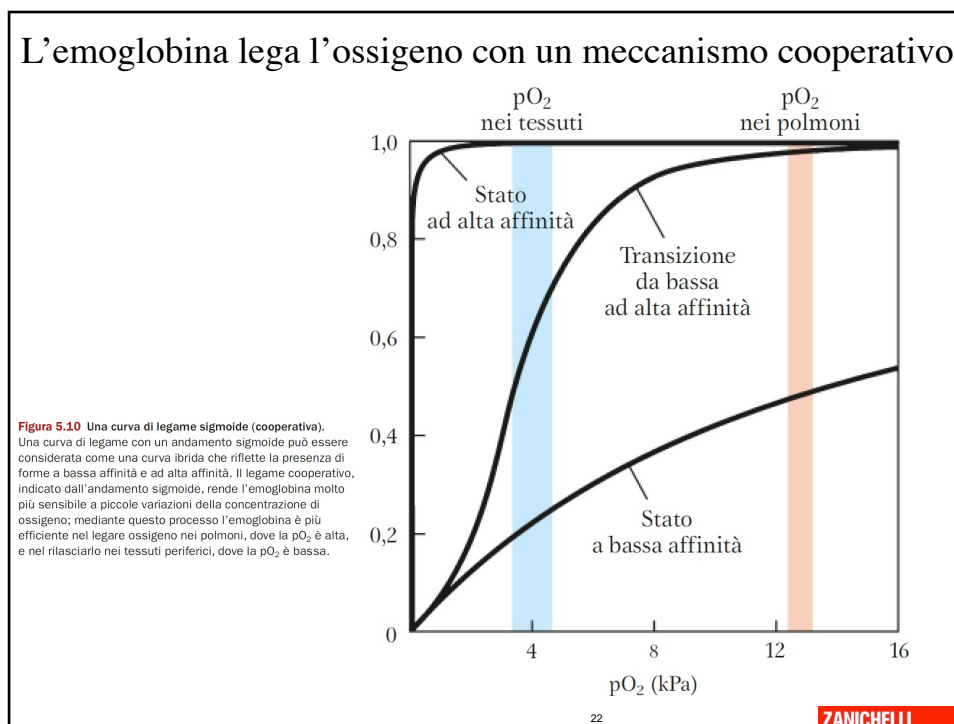
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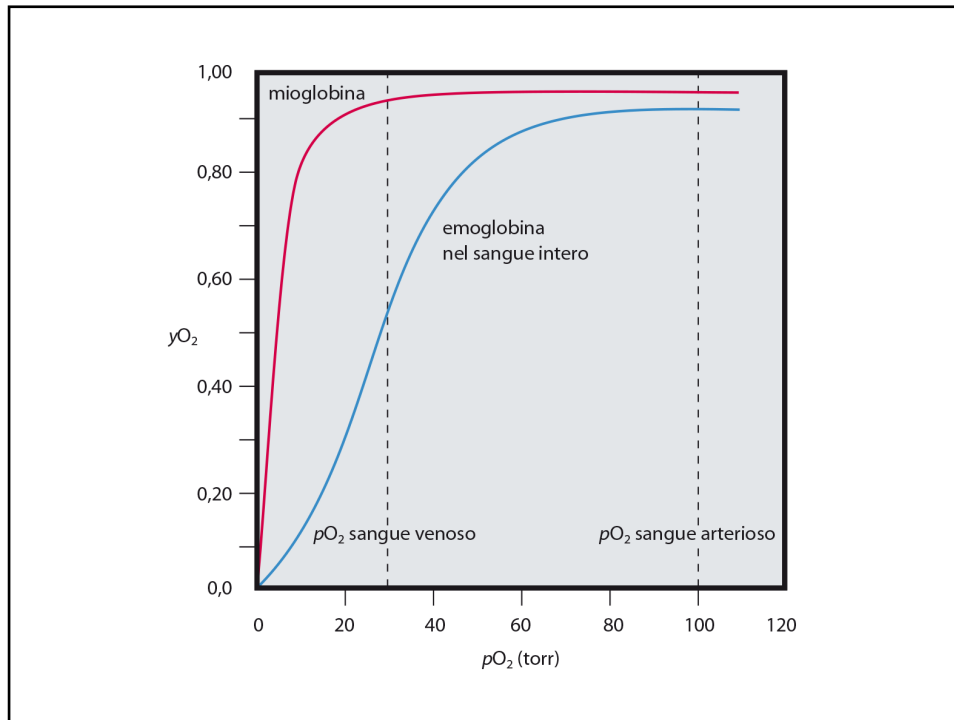
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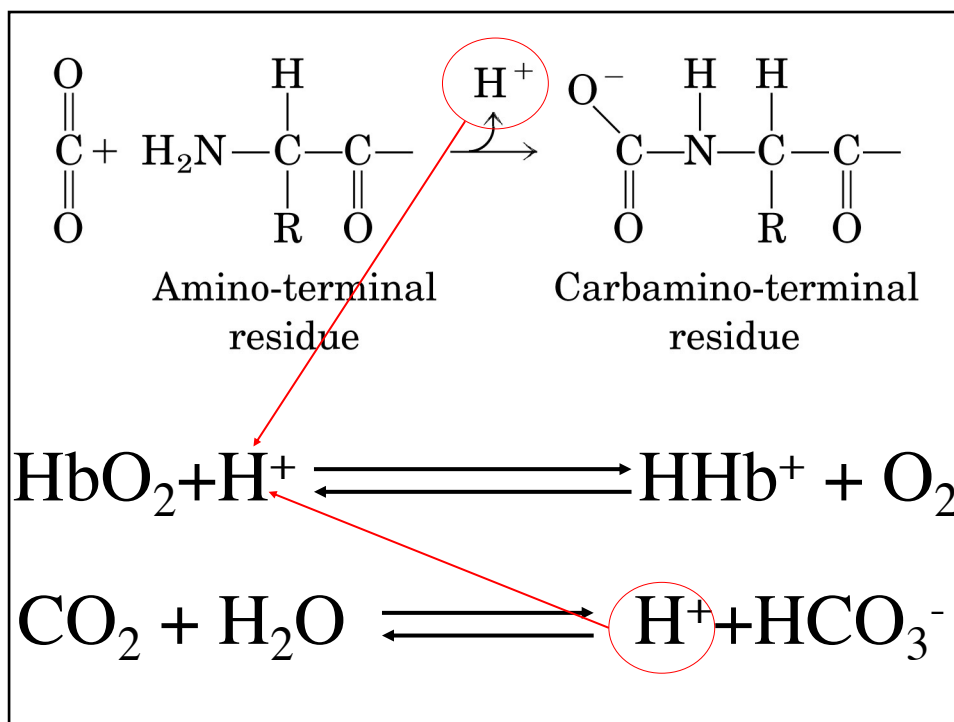
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22

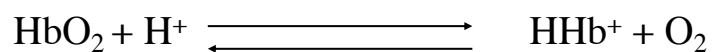
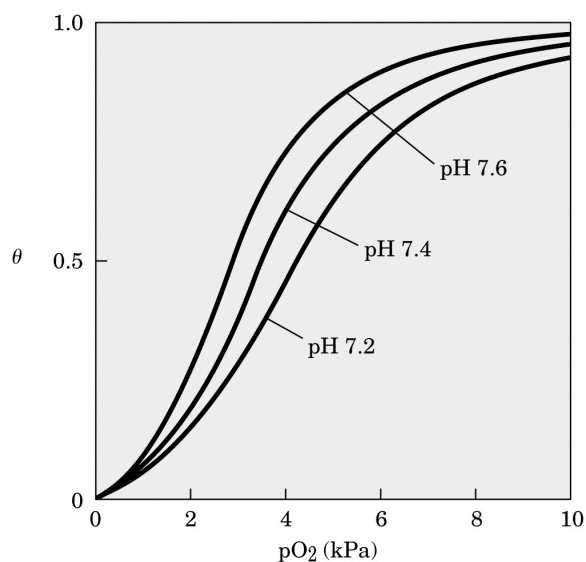


23



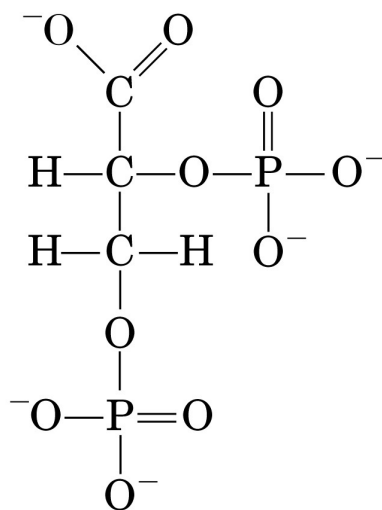
24

Effetto degli ioni H^+ e CO_2 sul legame dell' O_2 all'emoglobina (effetto Bohr)



25

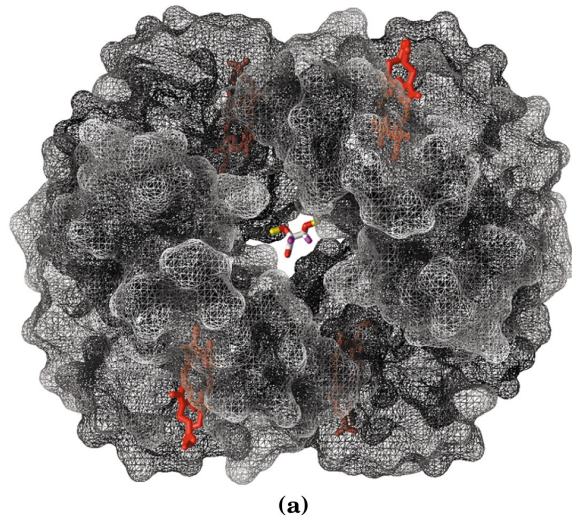
Il legame dell'ossigeno alla emoglobina è regolato dal 2,3-bisfosfoglicerato



2,3-Bisphosphoglycerate

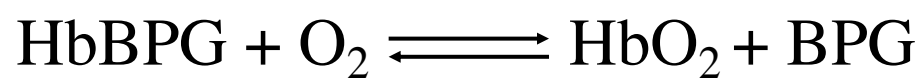
26

Legame del BPG alla deossiemo globina

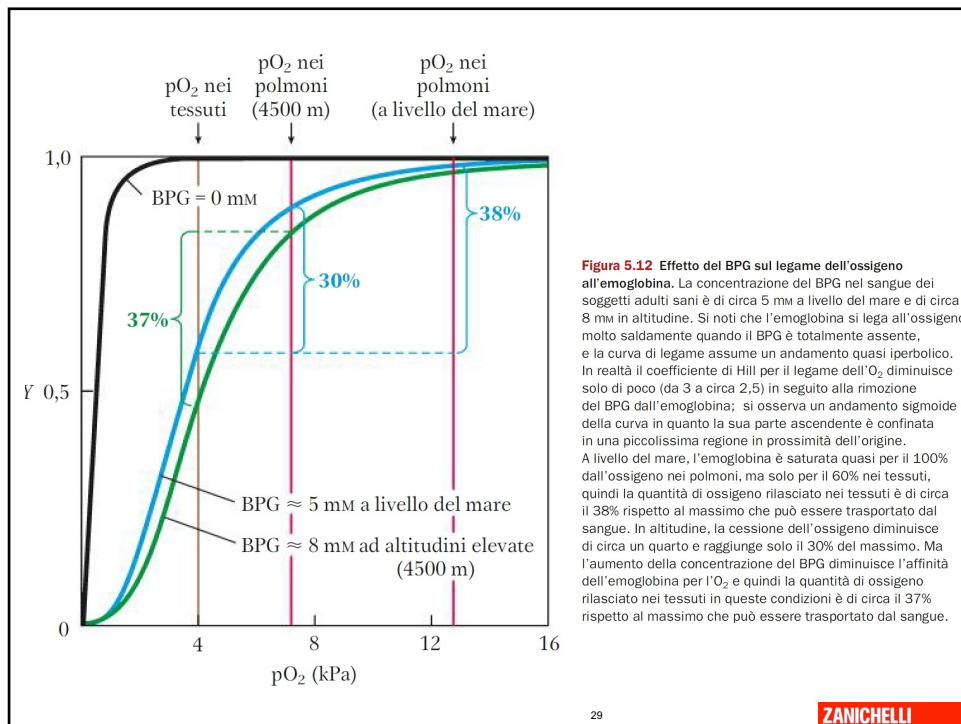


27

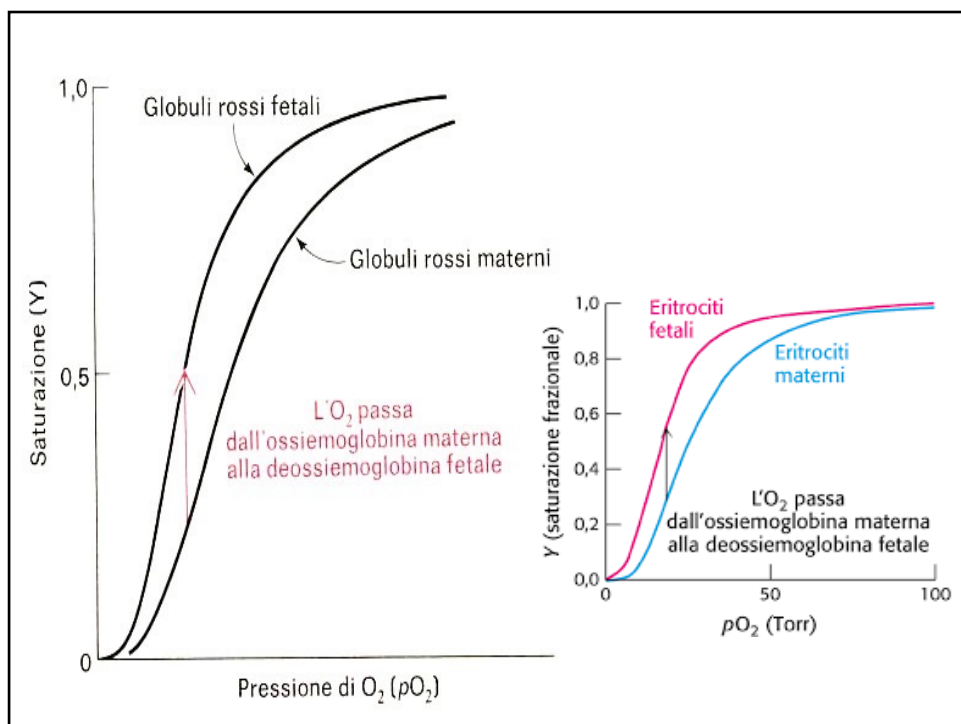
**Il legame dell'ossigeno alla emoglobina è regolato
dal 2,3-bisfosfoglicerato**



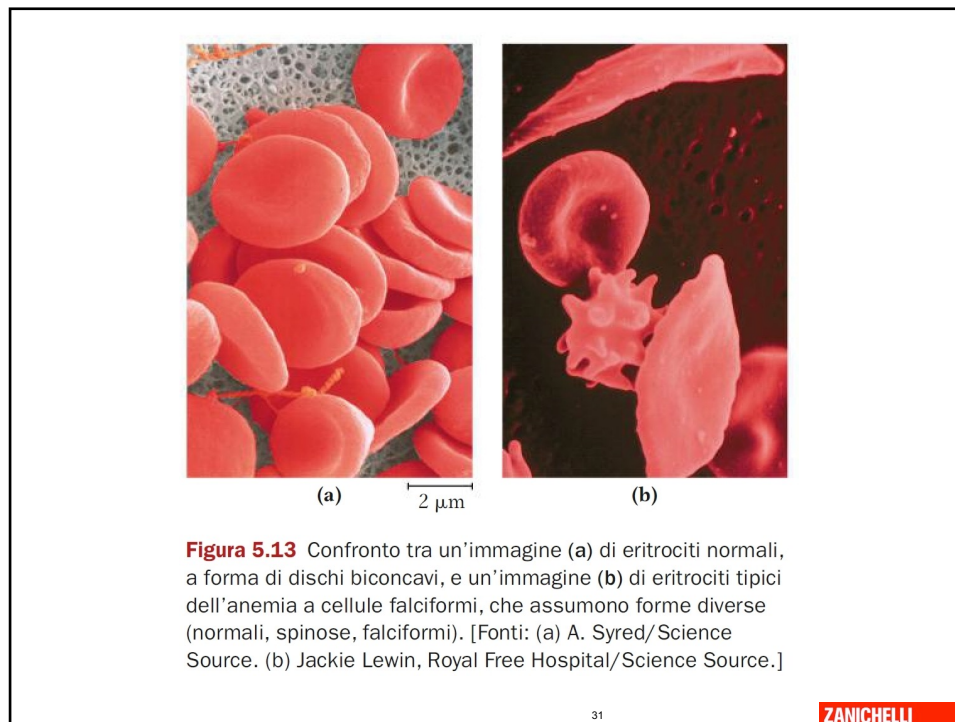
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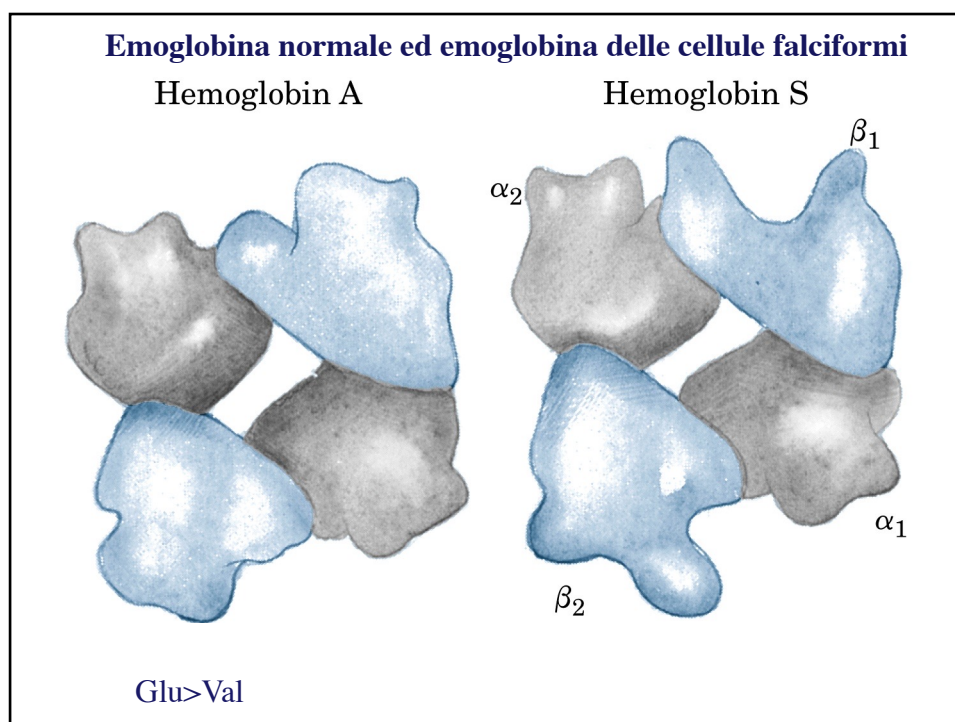
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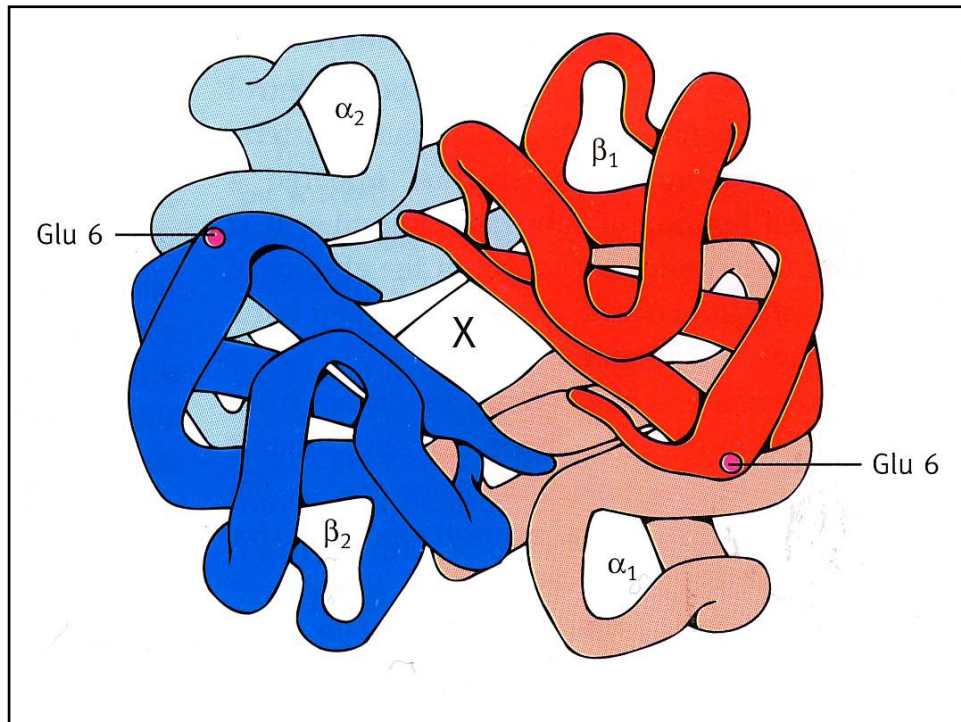
30



31



32



33