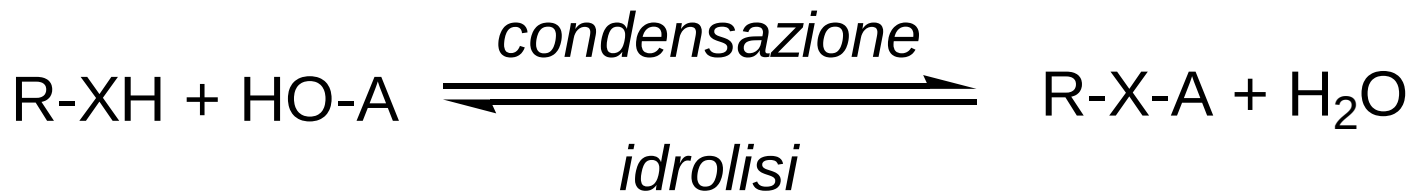
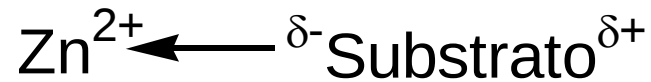


Zn^{2+} come acido di Lewis



$\text{X} = \text{NH}$, $\text{A} = -\text{CO-R}$

peptidasi, lactamasi, collagenasi

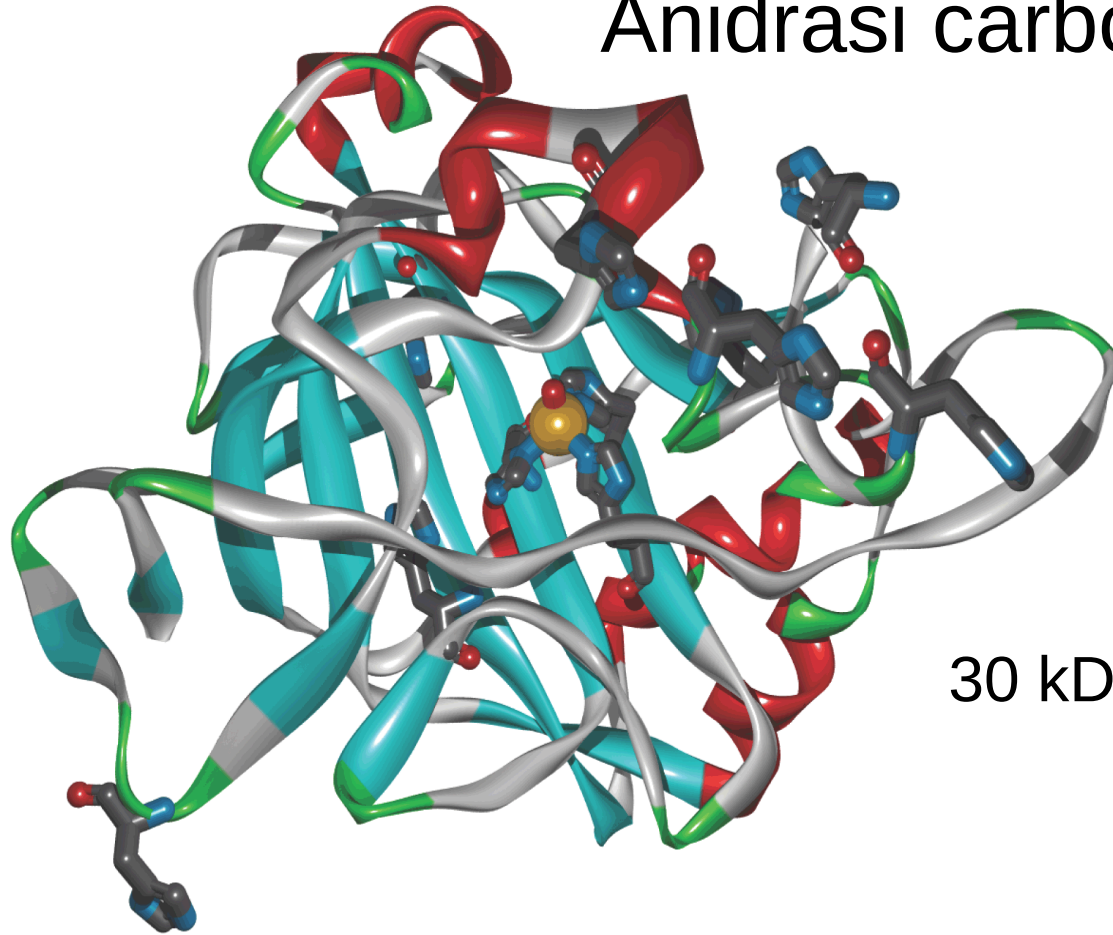
$\text{X} = \text{O}$, $\text{A} = -\text{CO-R}$

esterasi

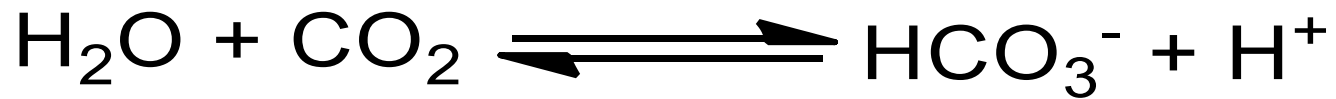
$\text{X} = \text{O}$, $\text{A} = \text{PO}_3^{2-}$

fosfatasi, nucleasi

Anidrase carbonica

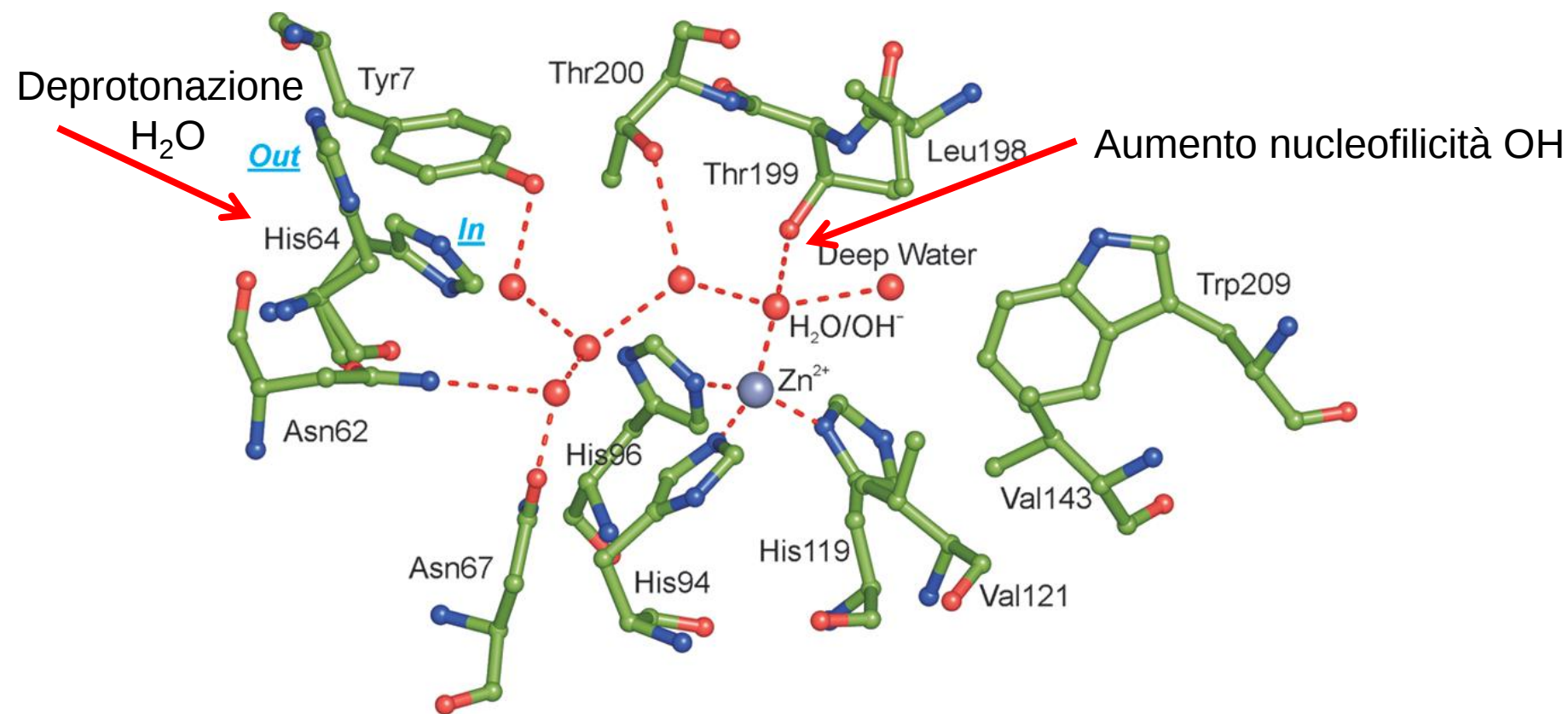
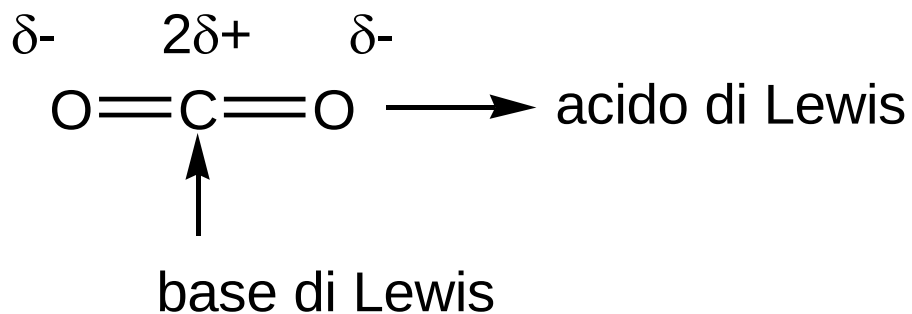


30 kDa, 259 a.a.

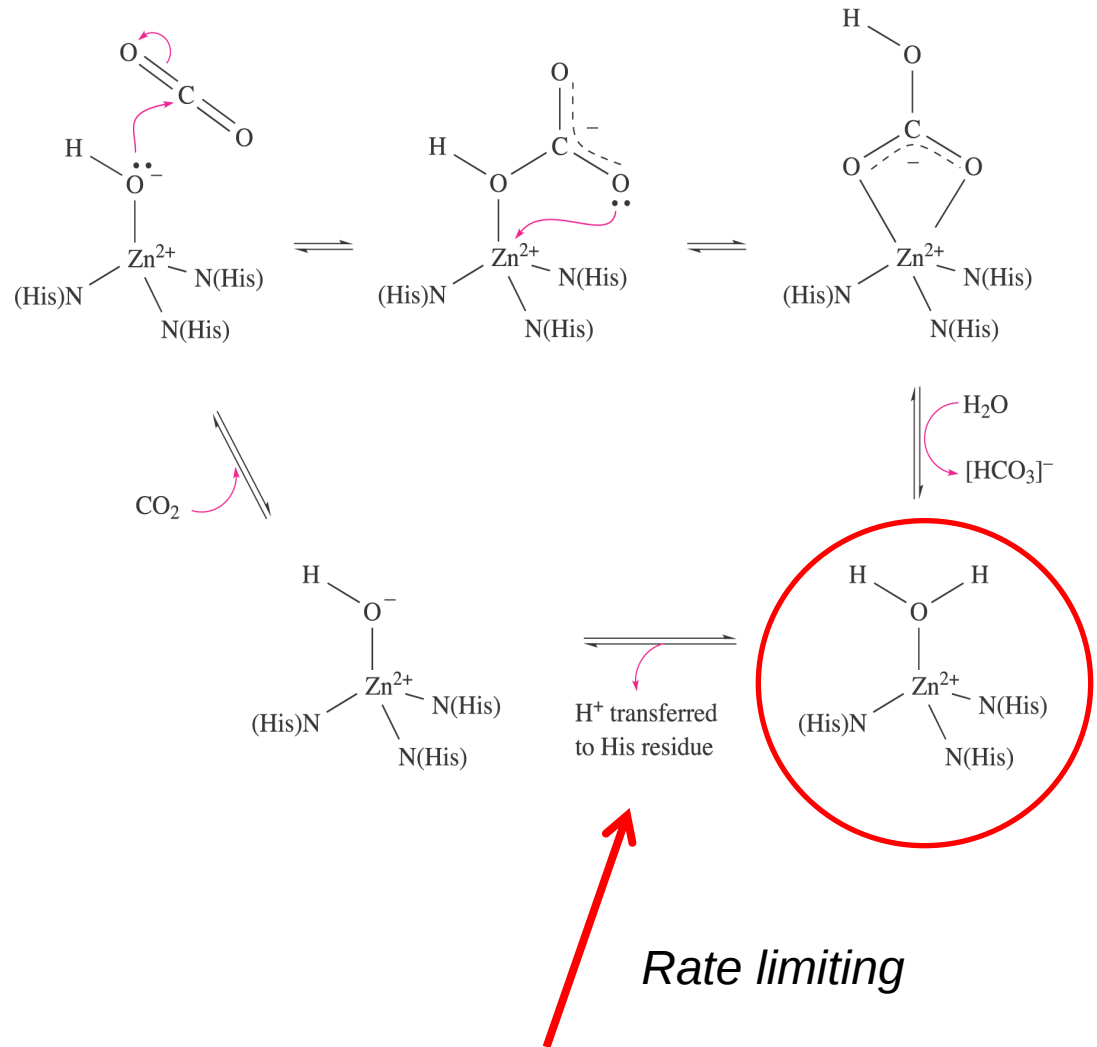
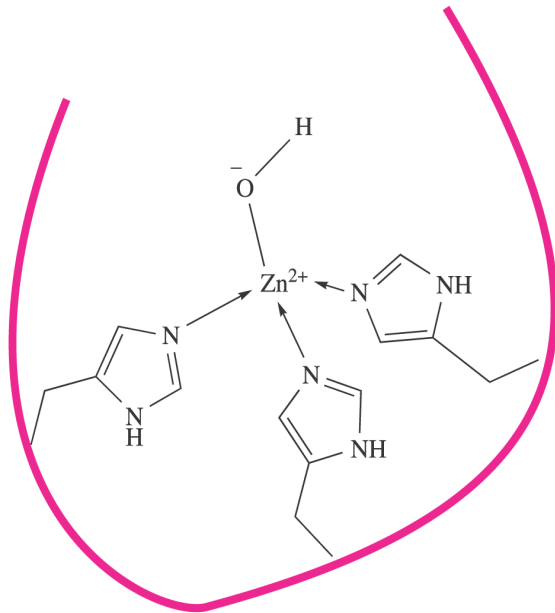


$$k \approx 10^{-1} \text{ s}^{-1} \rightarrow 10^6 \text{ s}^{-1}$$

Sito catalitico della anidrase carbonica

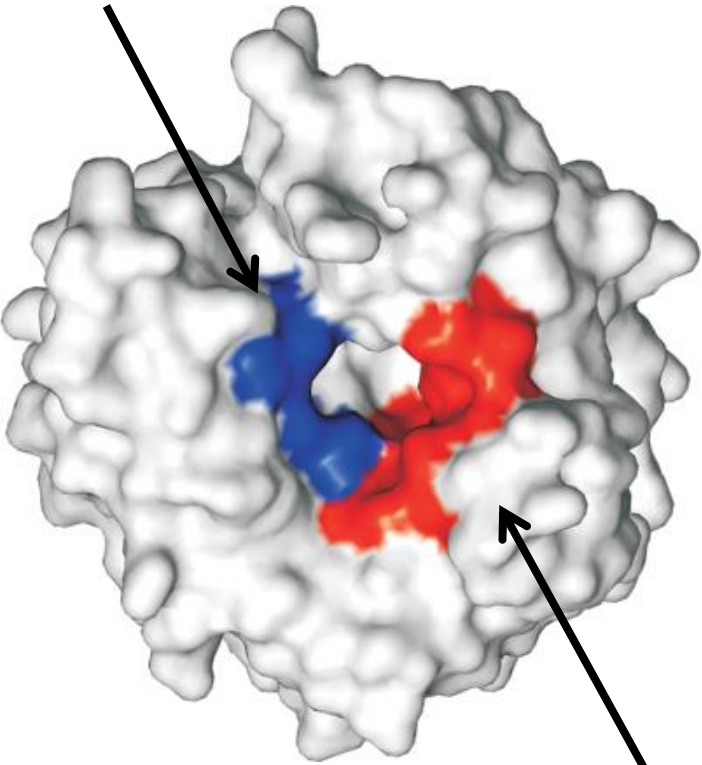


Ciclo catalitico della anidrase carbonica

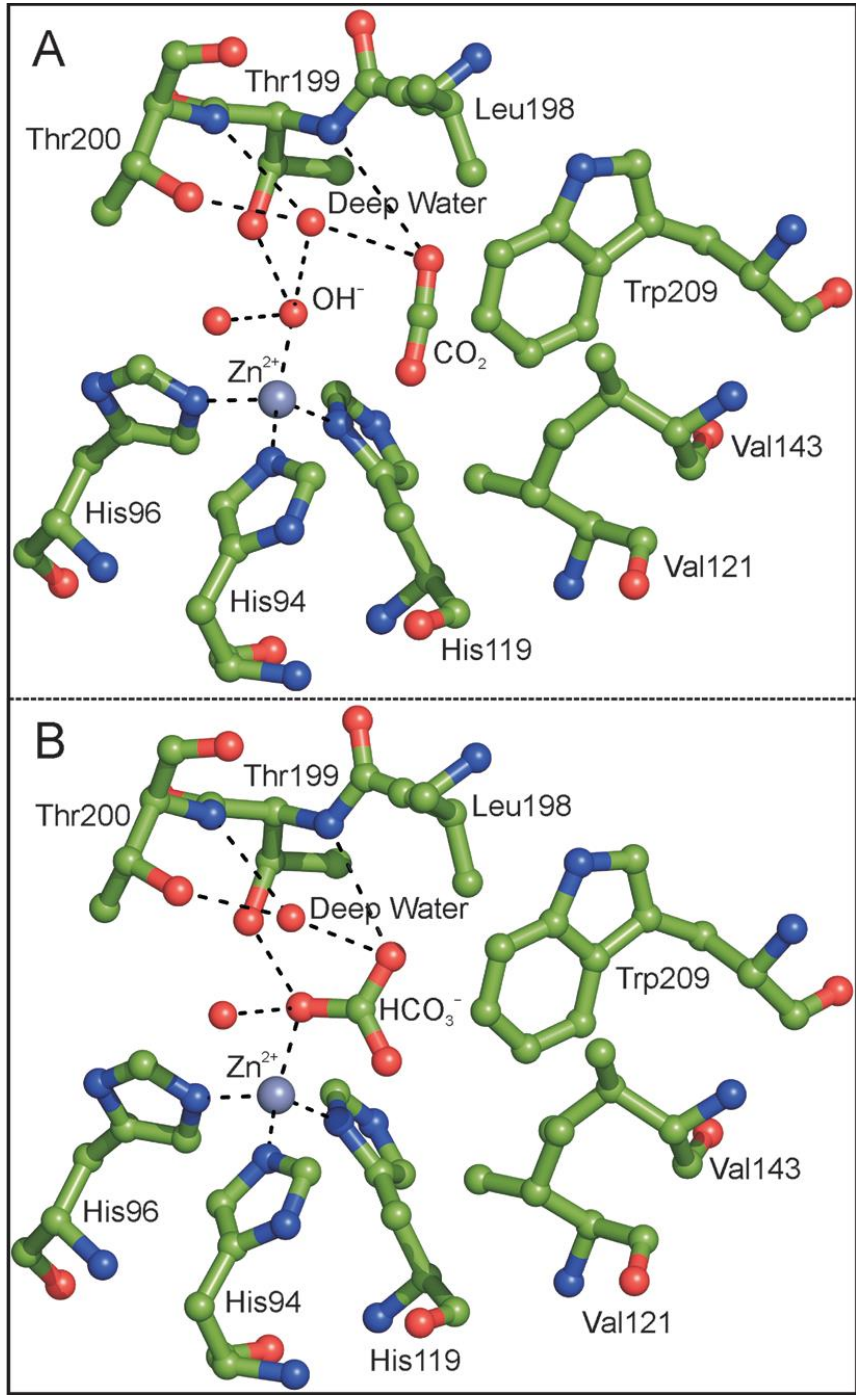


Cavità del sito catalitico nelle CA

Regione idrofilica

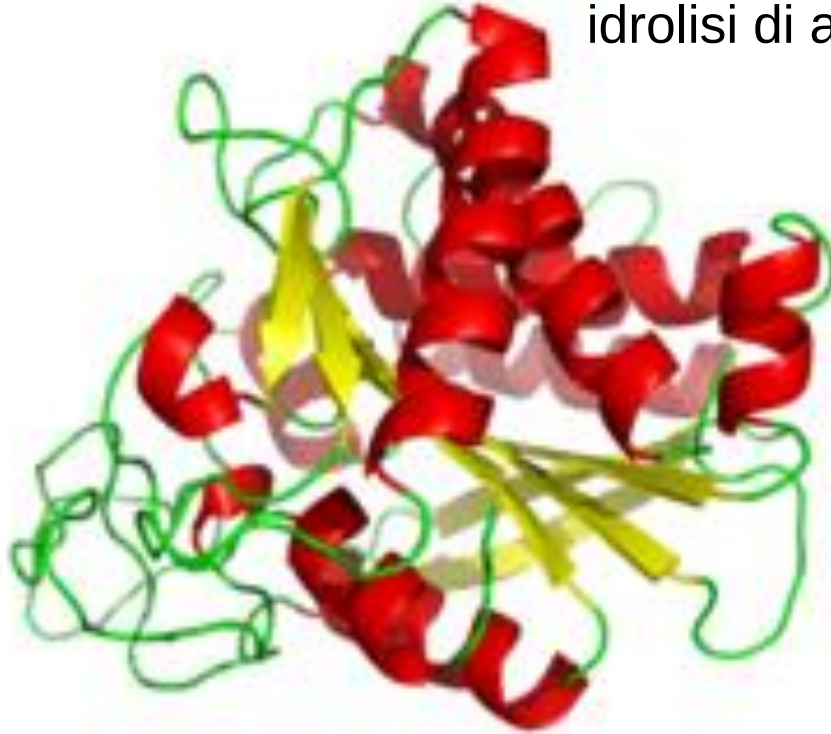


Regione idrofobica

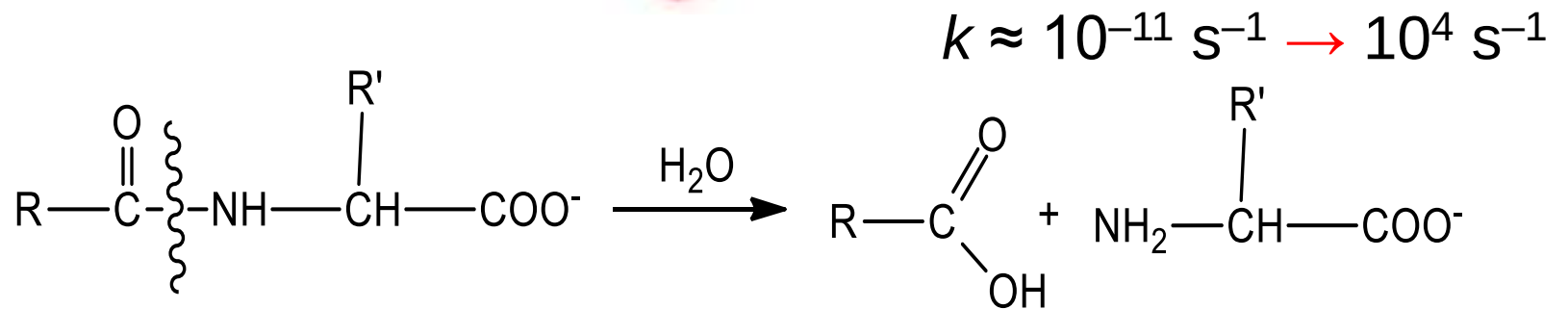


Carbossipeptidasi A (CPD A)

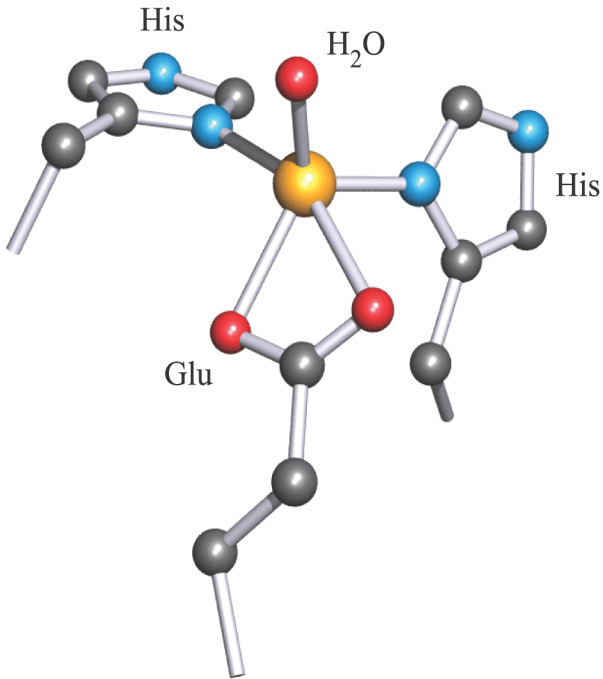
idrolisi di amminoacidi C-terminali



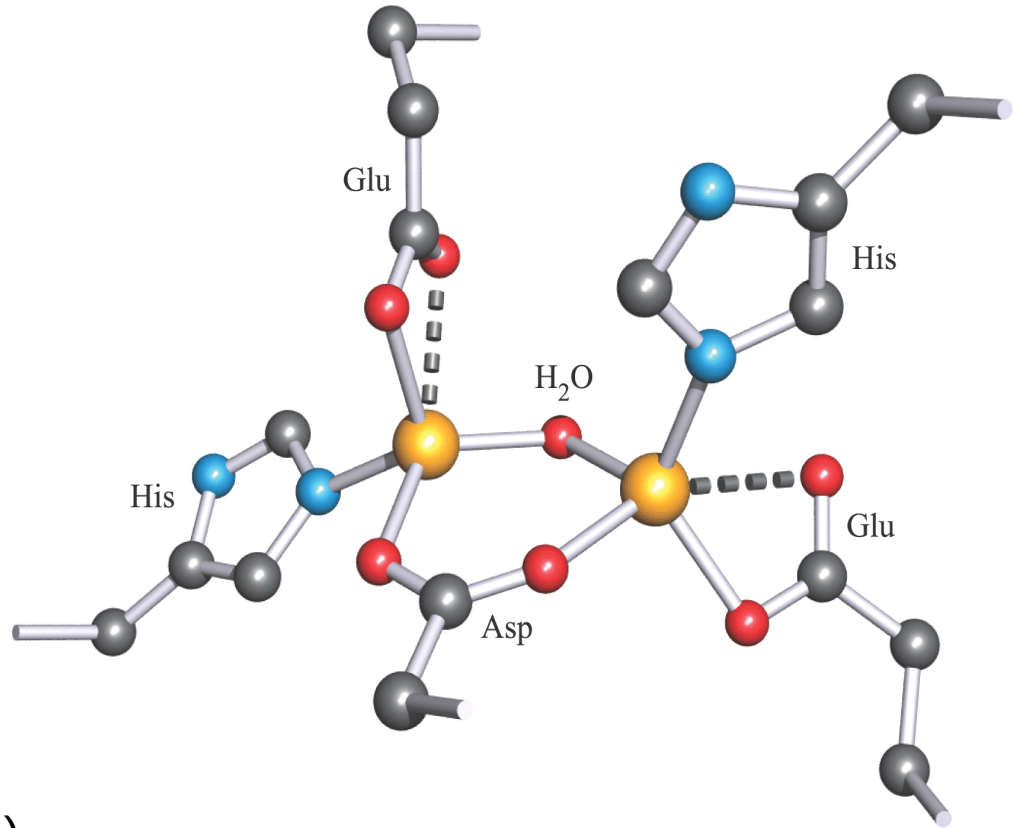
34 kDa, 300 a.a.



Siti attivi di carbossipeptidasi

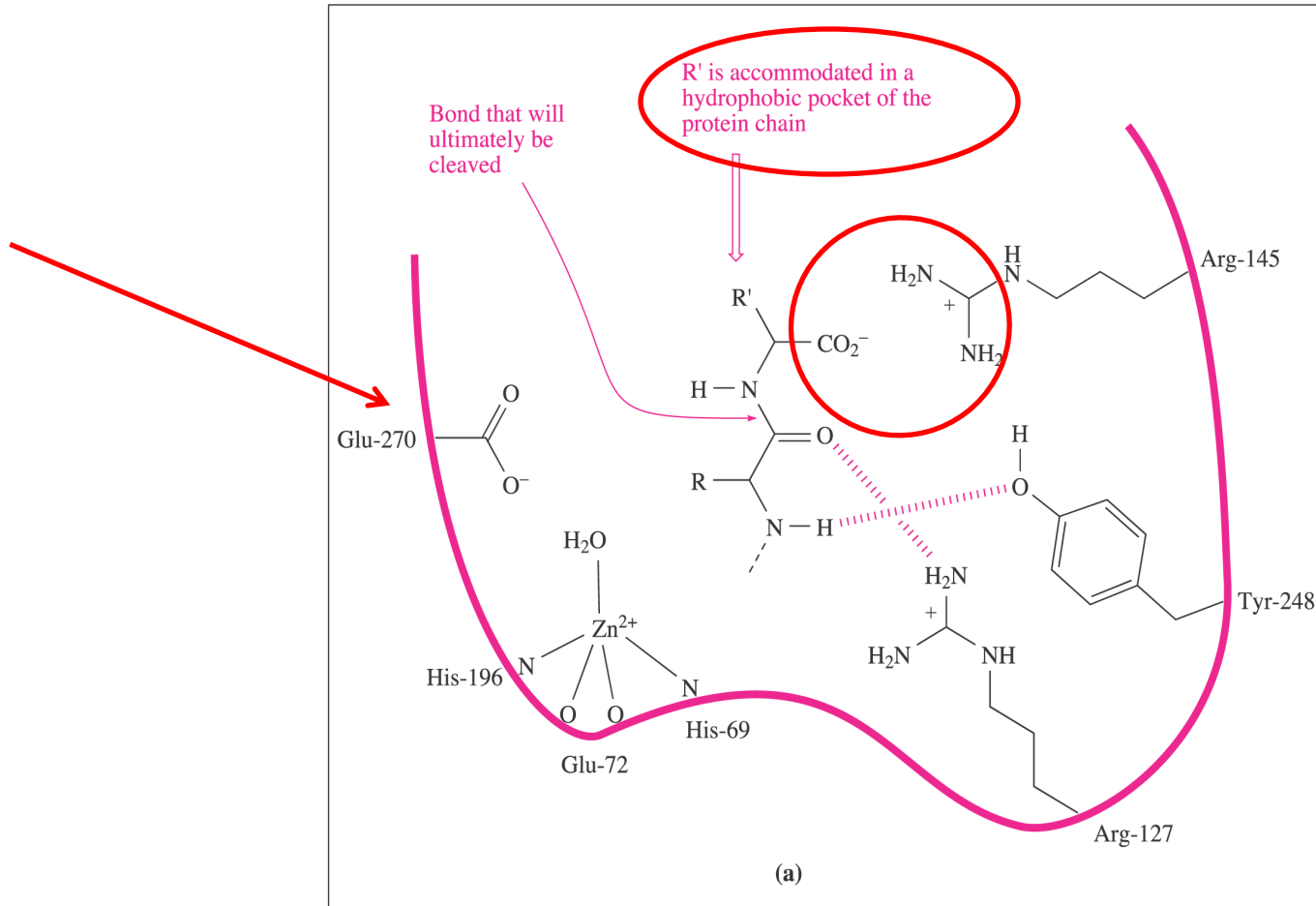


Carbossipeptidasi A (CPD A, bovino)

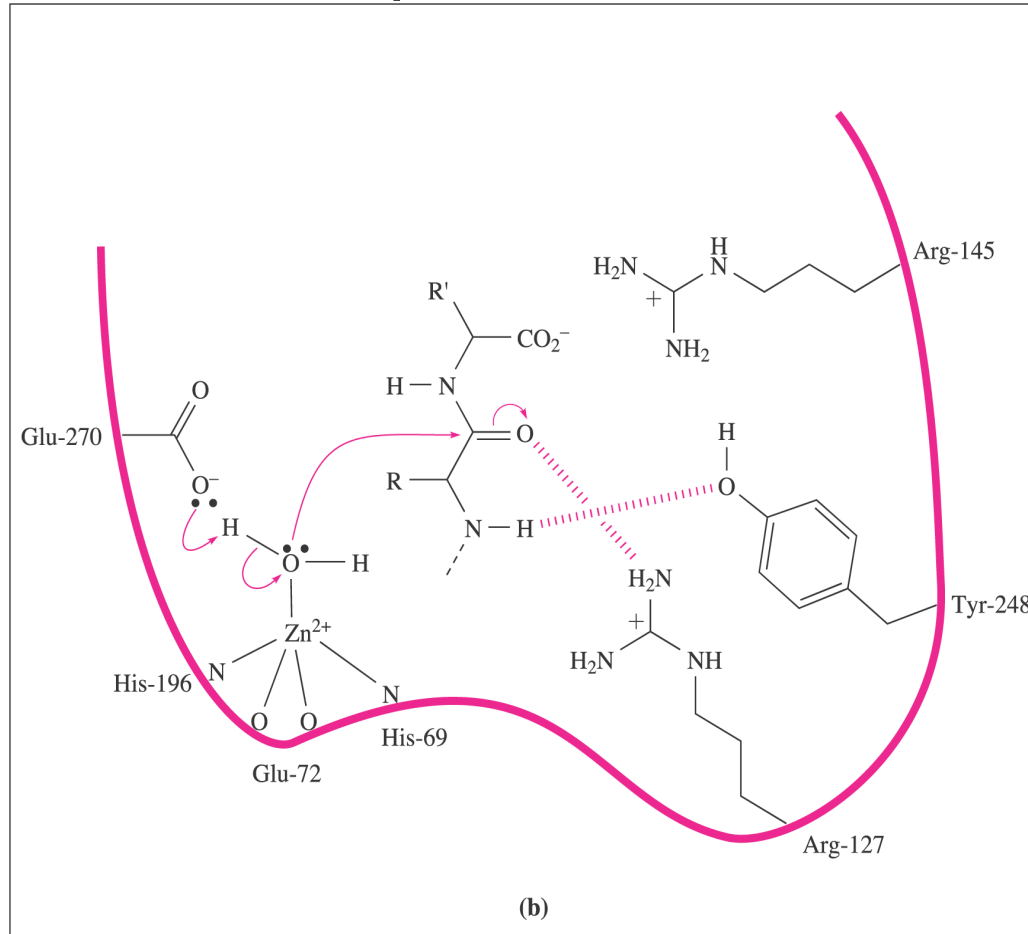


Carbossipeptidasi G2 (CPG2, batterio)

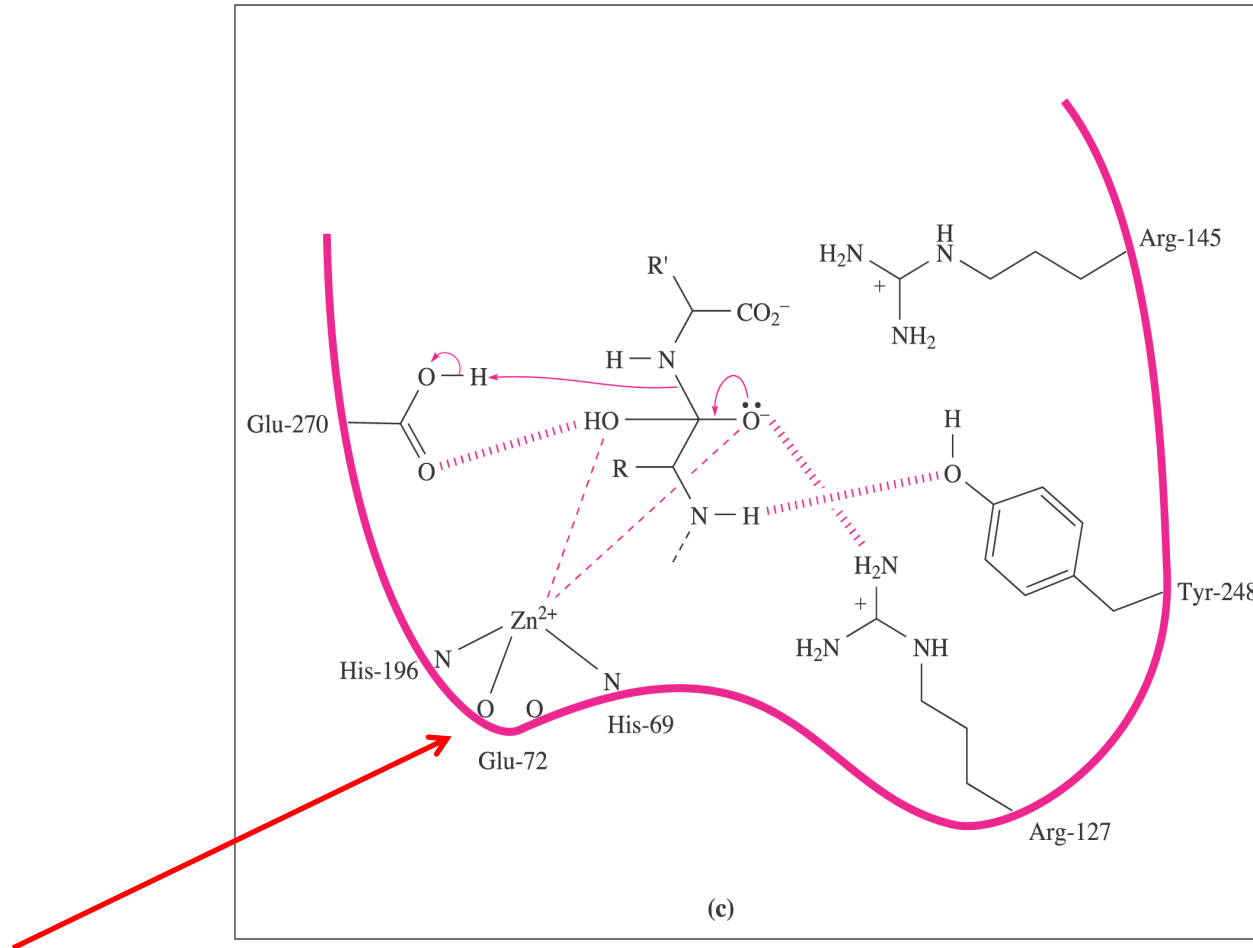
Posizionamento del substrato vicino al sito attivo della CPA



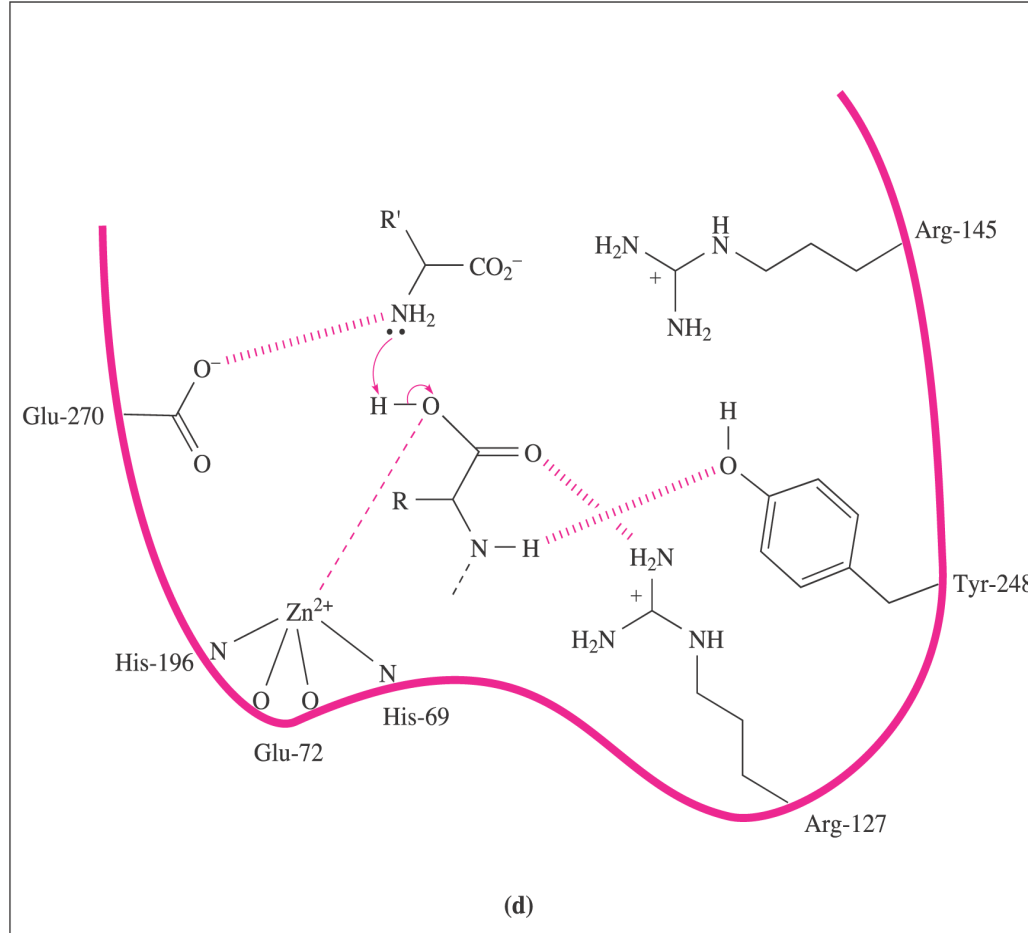
Attivazione dell'acqua e suo attacco nucleofilo



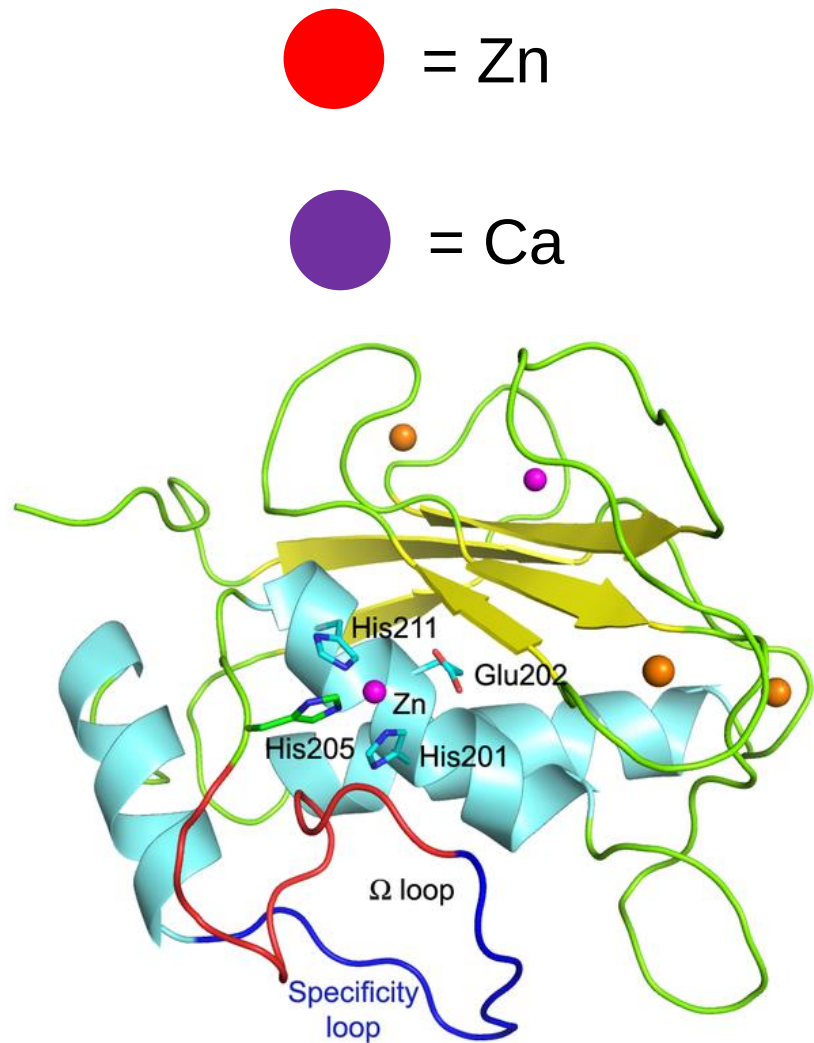
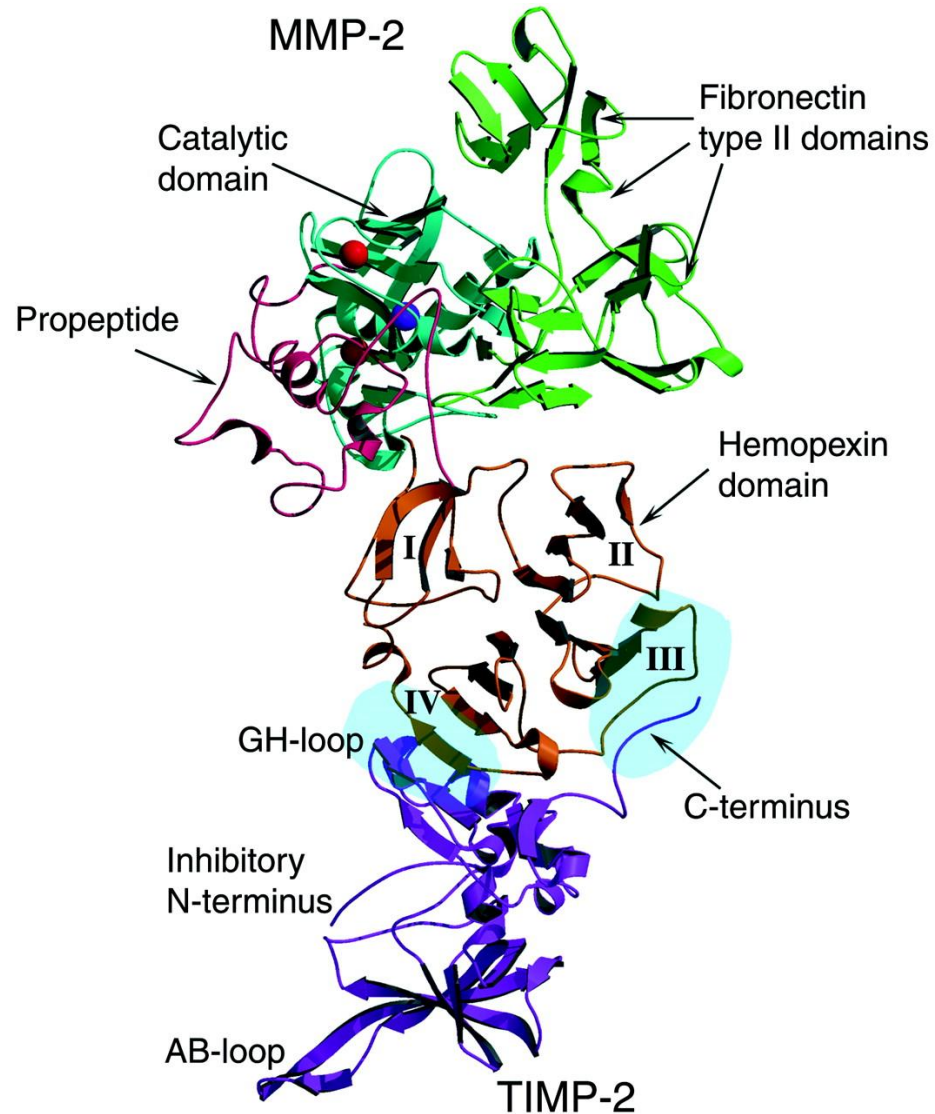
Rottura del legame peptidico C–N



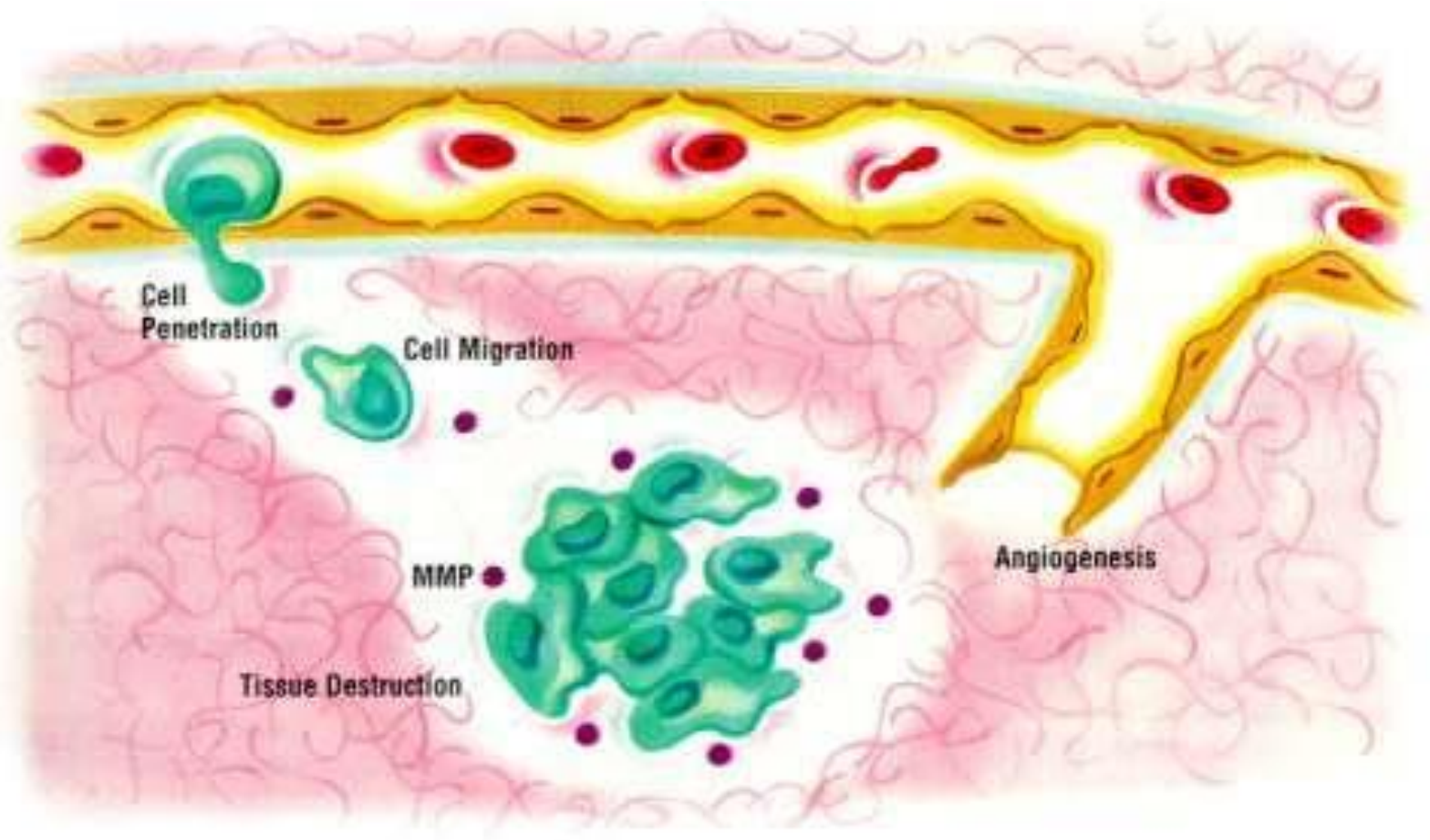
Trasferimento di un protone con formazione di NH_3^+ e del carbossilato



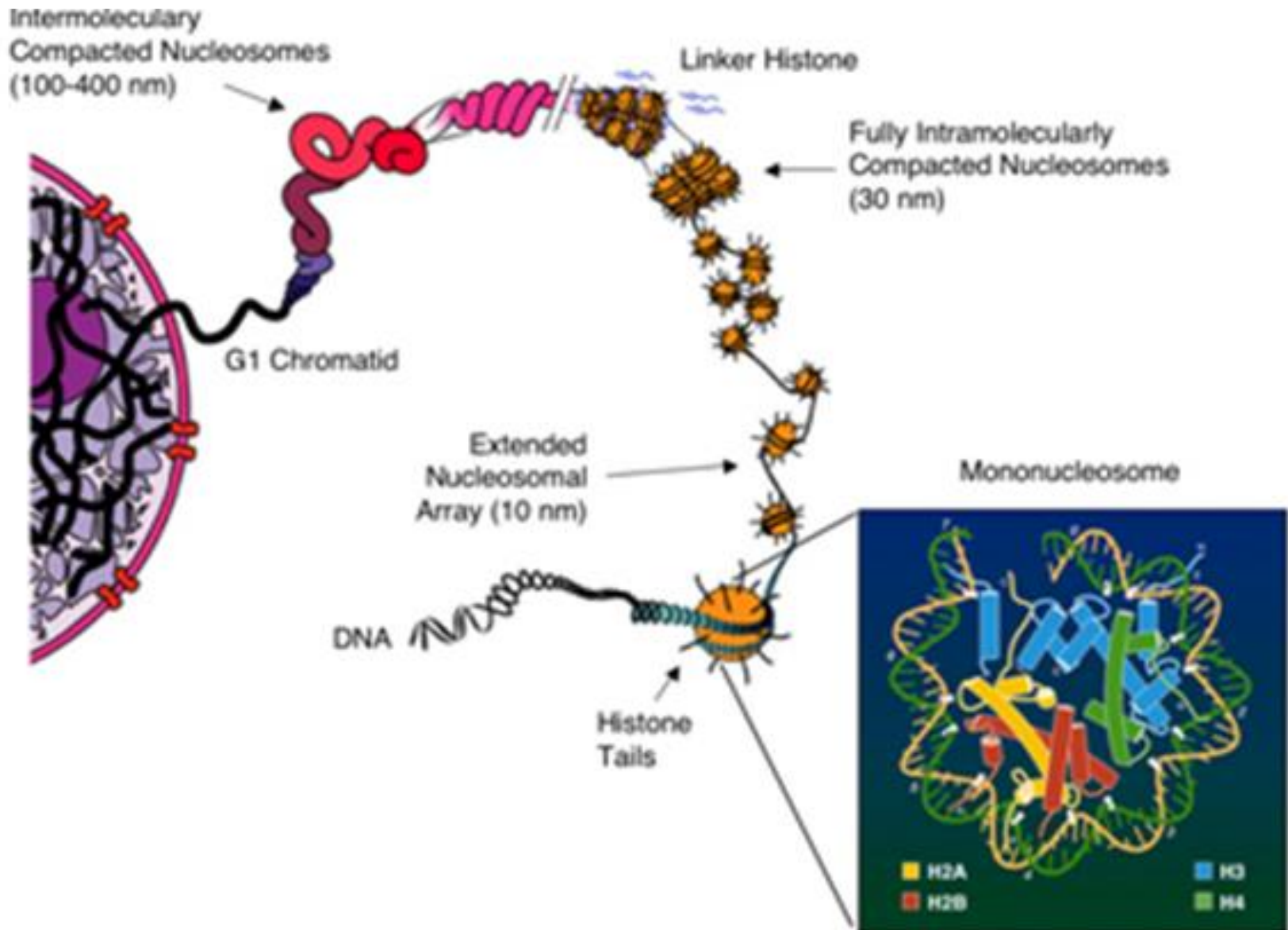
Matrix Metalloproteinases (MMPs) + Tissue Inhibitors of Metalloproteinases (TIMPs)



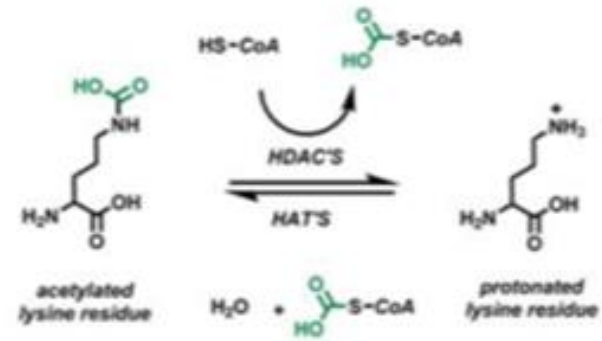
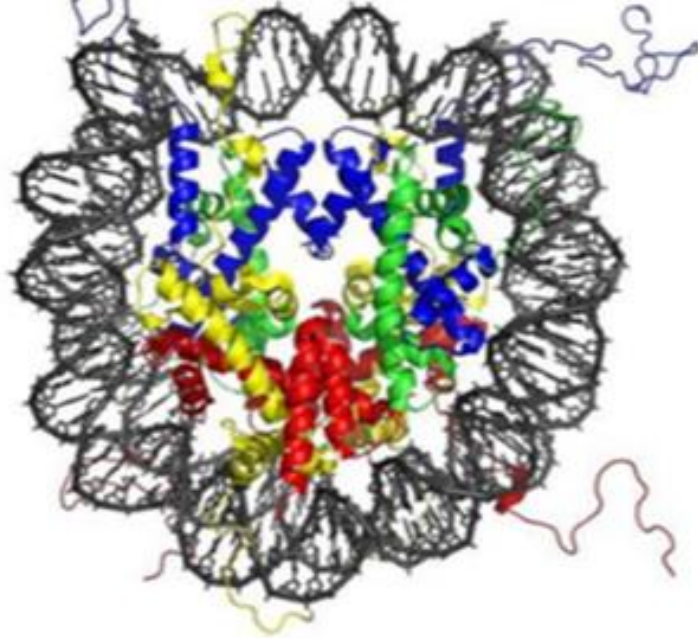
Processo metastatico favorito da MMP



Cromatina, Nucleosomi e Istoni



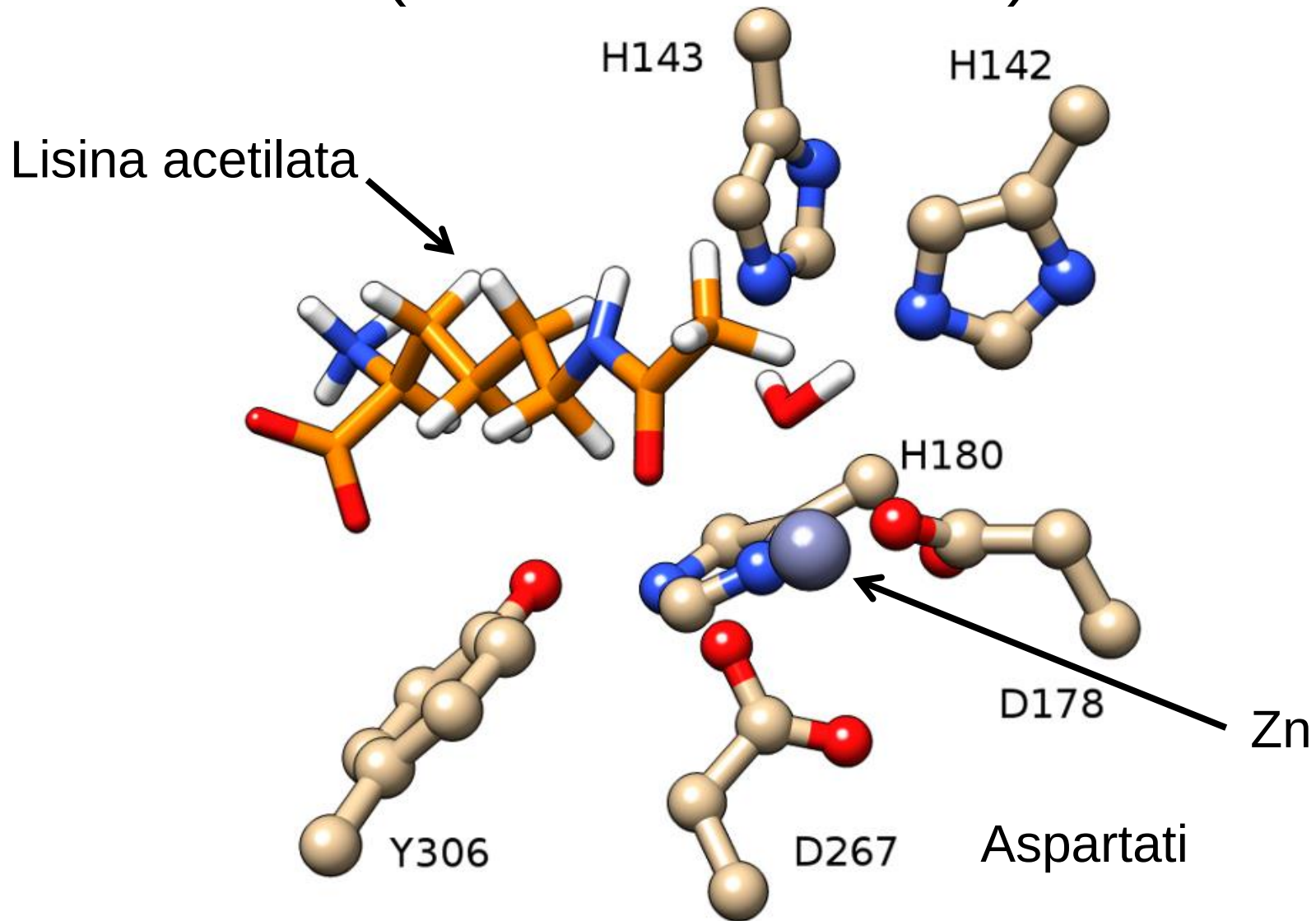
Nucleosoma e Istoni



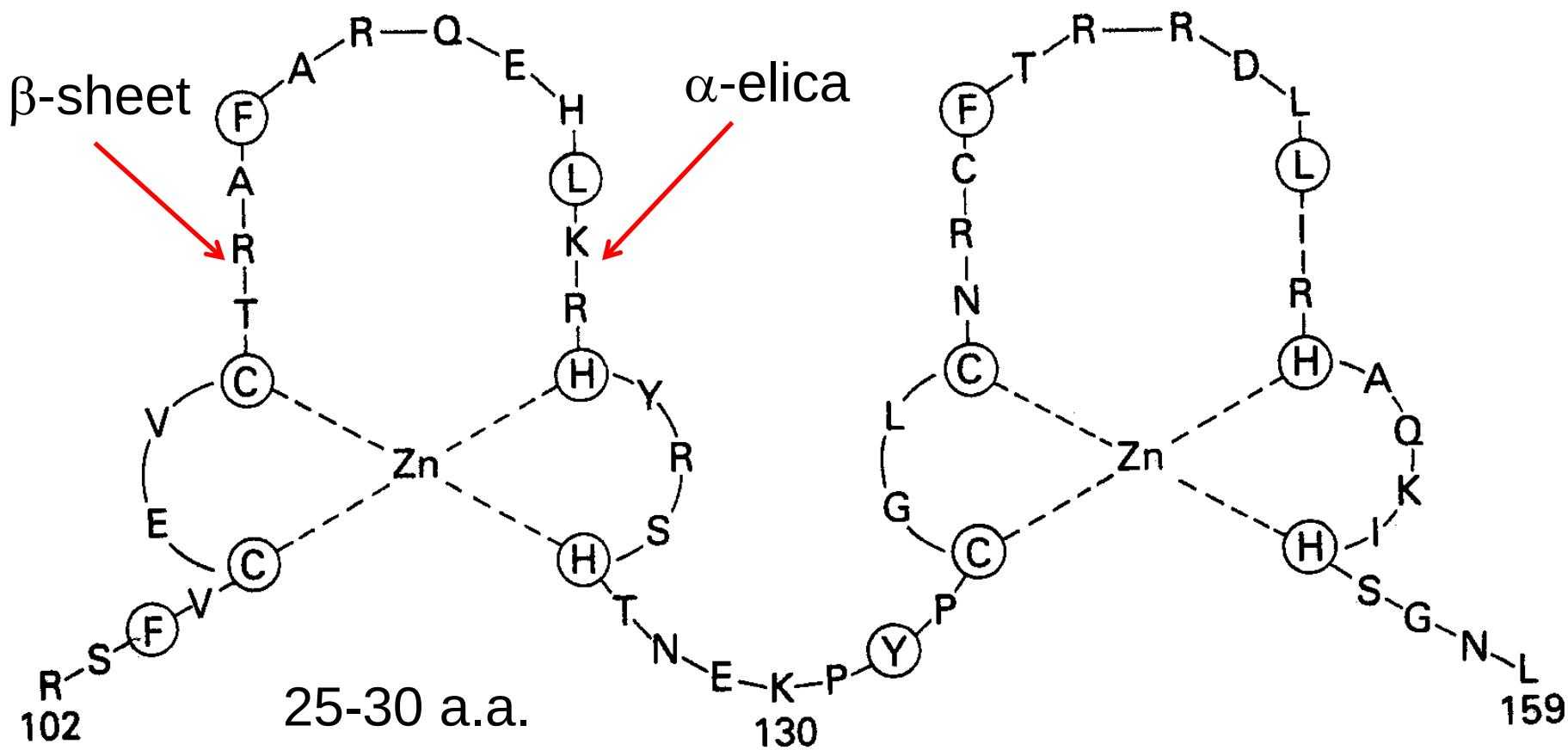
acetilazione e deacetilazione
degli istoni



Sito attivo di HDAC8 (istone-deacetilasi 8)



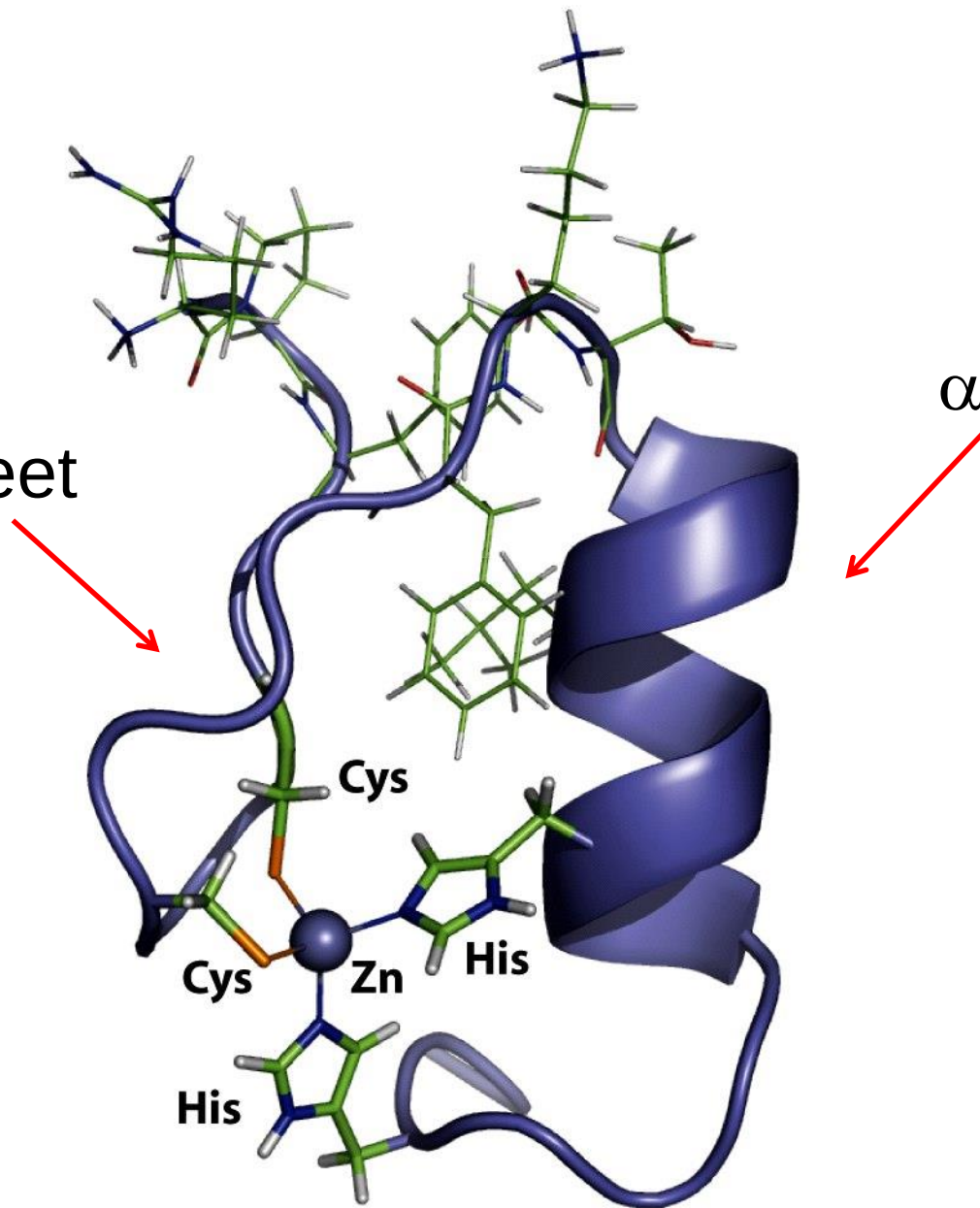
Zinc fingers

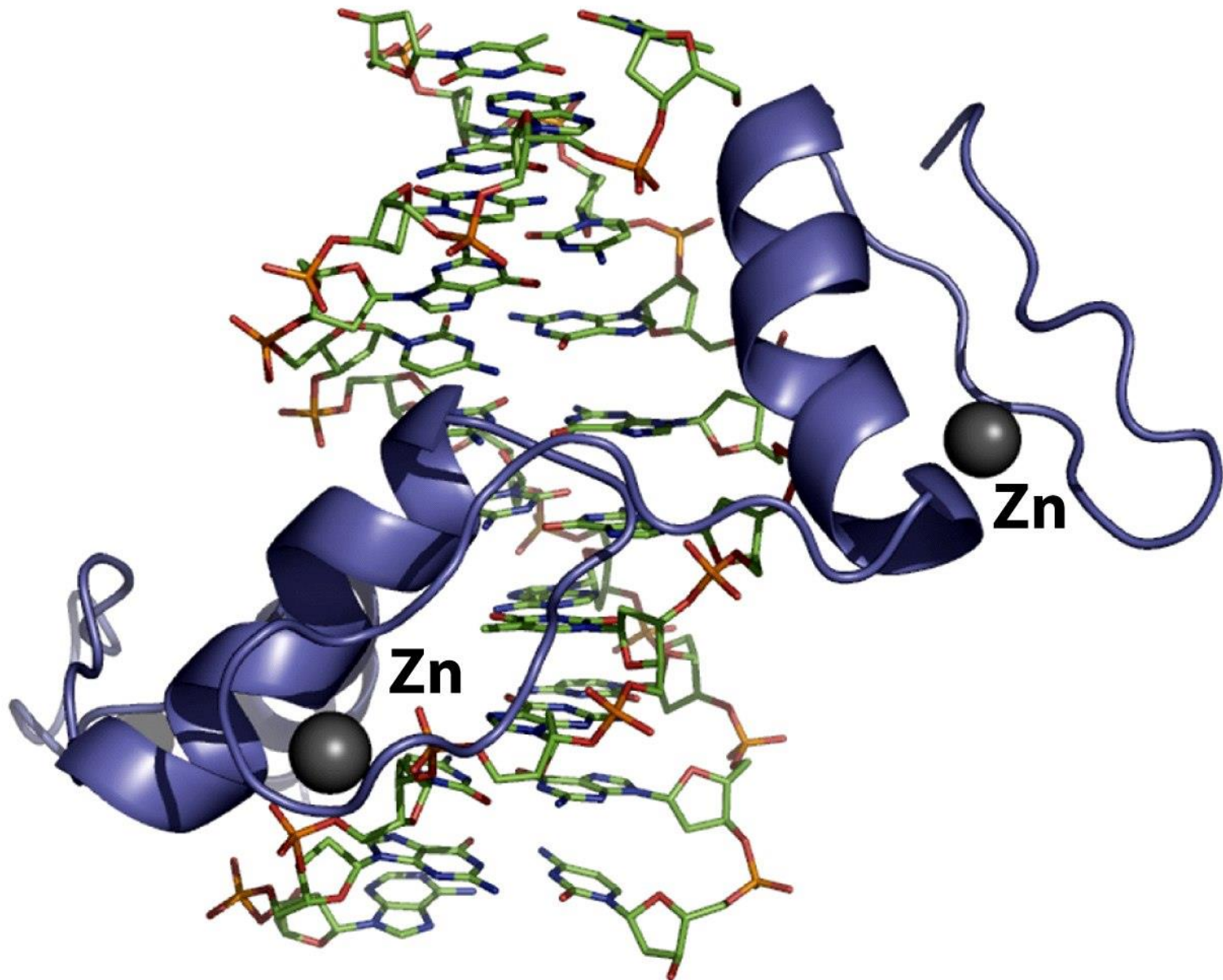


gene regulatory proteins e transcription factors

β -sheet

α -elica





Interazione di zinc-fingers con DNA