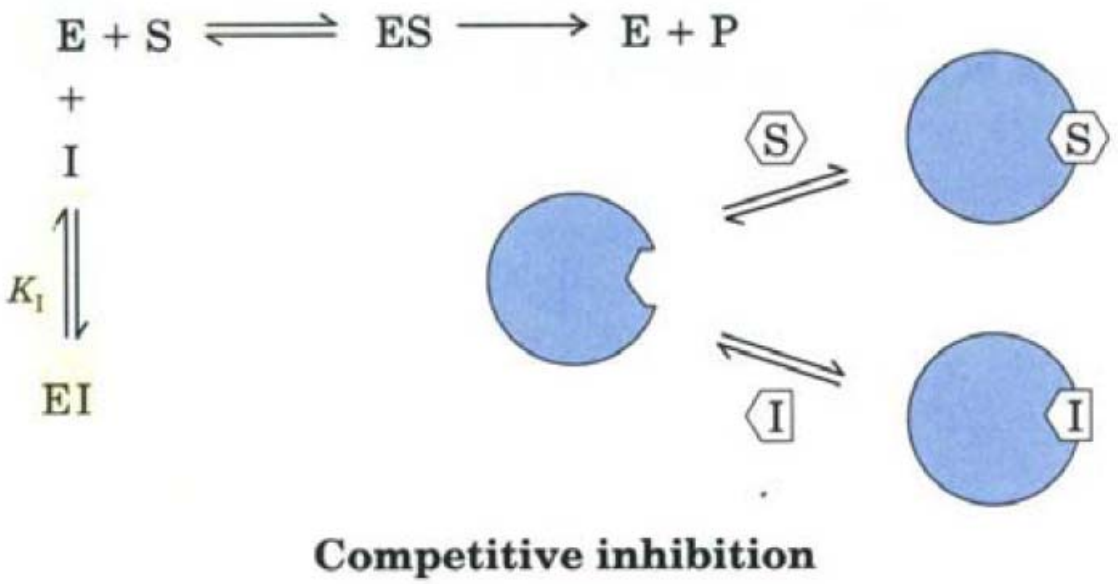
Конкурентное ингибирование



Competitive inhibition

$$E + I \overset{K_i}{\leftrightarrow} E{\cdot}I$$

$$K_i = [E]*[I]/[E{\cdot}I]$$

Реальные условия

$[I] >> [E_0]$

поэтому пренебрегаем изменением концентрации I, т.е.

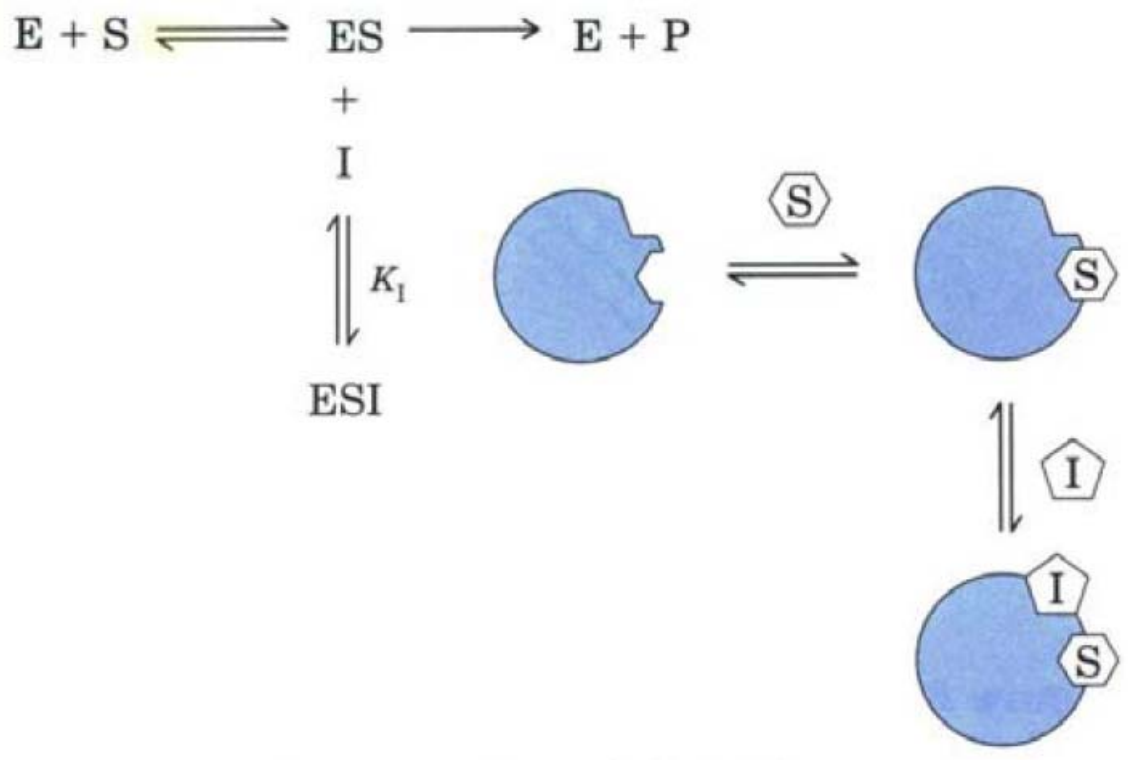
$[I] \approx [I_0]$

$$[E \cdot I] = [E]*[I]/K_i$$

$$[ES] = [E_0] - [E] - [E \cdot I]$$
$$[ES] = [E_0] - [E]*(1 + [I]/K_i)$$

$$[ES] = [E_0] - [E]*(1 + [I]/K_i)$$

Бесконкурентное ингибирование



$$ES + I \overset{K_i'}{\leftrightarrow} ES \cdot I$$

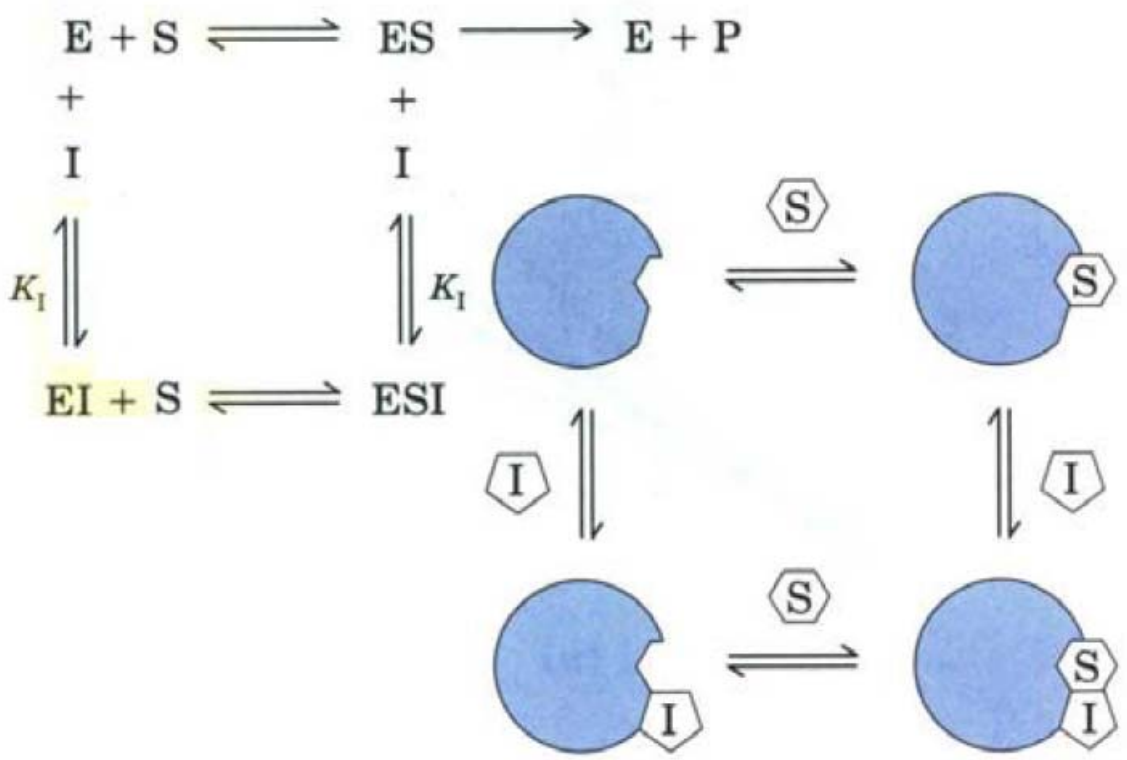
$$K_i' = [ES]*[I]/[ES \cdot I]$$

$$[ES] = [E_0] - [E] - [E \cdot I] - [ES \cdot I]$$

$$[ES]*(1 + [I]/K_i') = [E_0] - [E]$$

$$[ES]*(1 + [I]/K_i') = [E_0] - [E]$$

Неконкурентное ингибирование



$$[ES] = [E_0] - [E] - [ES \cdot I]$$

$$[ES]*(1 + [I]/K_i') = [E_0] - [E]*(1 + [I]/K_i)$$