$$K_{m-app} = 3.3360 \frac{mg}{L}$$

$$at\ I = 0\ ;\ K_m = 1.4165 \frac{mg}{L}$$

$$\alpha = \frac{3.3360\ mM}{1.4165\ mM} = 2.3551006$$

$$K_I = \frac{2\ mM}{(2.3551 - 1)mM} = 1.4759\ mM$$

Problem 3

Michaelis-Menten kinetics are used to describe intracellular reactions. Yet [Eo] ≈ [So]. In in vitro batch reactors, the quasi-steady-state hypothesis does not hold for [Eo] ≈ [So]. Similarly, the rapid equilibrium assumption also will not hold. Rationalize why Michaelis-Menten Kinetics and the quasi-steady-state approximation are still reasonable descriptions of intracellular enzyme reactions. ANSWER IN NO MORE THAN THREE SENTENCES. If your answer exceeds three sentence, you will automatically be given a GRADE of ZERO in Problem no.3

Answer:

According to Michaelis Menten kinetics, the enzyme and substrate interactions starts after formation of a bond between them which results to form an enzyme-substrate complex, which further leads to formation of products of a single-substrate enzymes activity that depends on substrate concentration.