Figure 3.10. Different forms of inhibited enzyme kinetics.

or

$$v = \frac{V_{m,\text{app}}}{\left(1 + \dfrac{K'_m}{[S]}\right)} \tag{3.27}$$

where $V_{m,\text{app}} = \dfrac{V_m}{\left(1 + \dfrac{[I]}{K_1}\right)}$

      The net effect of noncompetitive inhibition is a reduction in V_m. High substrate concentrations would not overcome noncompetitive inhibition. Other reagents need to be added to block binding of the inhibitor to the enzyme. In some forms of noncompetitive inhibition V_m is reduced and K'_m is increased. This occurs if the complex ESI can form product.

      Uncompetitive inhibitors bind to the ES complex only and have no affinity for the enzyme itself. The scheme for uncompetitive inhibition is