VELOCITY INITIAL (V_0)

$$V_0 = \frac{k_{cat} * [E]_{total} * [S]}{K_M + [S]}$$

- This is the Michaelis-Menten Equation!

$$V_0 = \frac{V_{max} * [S]}{K_M + [S]}$$

- This is the more well known version of the Michaelis-Menten Equation
- We let $k_{cat} = V_{max}$

- K_M = reaction dependent and will change based on the different substrates or enzymes present
- K_M has units of concentration

K_M AS AN APPROXIMATION FOR ENZYME AFFINITY

$$K_M = \frac{k_{-1} + k_2}{k_1}$$

- IF ($k_2 > k_1$) { K_M == Large ; Affinity == Low }
- IF ($k_2 < k_1$) { K_M == Small ; Affinity == High }