

## The Effect of a Muscarinic Antagonist on the Lipase Activity

**Authors :** Zohreh Bayat, Dariush Minai-Tehrani

**Abstract :** Lipases constitute one of the most important groups of industrial enzymes that catalyze the hydrolysis of triacylglycerol to glycerol and fatty acids. Muscarinic antagonist relieves smooth muscle spasm of the gastrointestinal tract and effect on the cardiovascular system. In this research, the effect of a muscarinic antagonist on the lipase activity of *Pseudomonas aeruginosa* was studied. Lineweaver-Burk plot showed that the drug inhibited the enzyme by competitive inhibition. The IC<sub>50</sub> value (60  $\mu$ M) and K<sub>i</sub> (30  $\mu$ M) of the drug revealed the drug bound to the enzyme with high affinity. Determination of enzyme activity in various pH and temperature showed that the maximum activity of lipase was at pH 8 and 60°C both in presence and absence of the drug.

**Keywords :** bacteria, inhibition, kinetics, lipase

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