

Fluorescence Studies on Glyceraldehyde-3-phosphate Dehydrogenase from Bovine Heart Muscle

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Glyceraldehyde-3-phosphate dehydrogenase is a glycolytic enzyme that catalyses conversion of glyceraldehyde-3-phosphate to 1,3-diphosphoglycerate. ATP has been found to have an inhibitory effect on this enzyme. To establish the interaction between the enzyme and ATP, a fluorescence technique was used. Fluorescence quenching in the presence of ATP suggests cooperative binding of ATP to the enzyme (the Hill obtained coefficient equals 2.78). The interaction between glyceraldehyde-3-phosphate dehydrogenase and ATP may control not only glycolysis but other activities of this enzyme, such as binding to the cytoskeleton.