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제목 : Inactivation of Brain GABA transaminase by p^1,p^2-Bis(5'-pyridoxal) diphosphate

연구자 : S.H.Jang[1], B.R.Lee[1], J.W.Hong[1], K.W.Park[1], B.K.Yoo[1], S.W.Cho[2] and S.Y.Choi[1]

소속 : [1] Dept. of Genetic Engineering, Hallym Univ. Chunchon, Korea
[2] Dept. of Biochemistry, College of Medicine, Univ. of Ulsan, Seoul, Korea

GABA transaminase is inactivated by preincubation with p^1,p^2-bis(5'-pyridoxal) diphosphate at pH 7.0. The inactivation under pseudo-first order conditions proceeds at a slow rate (K_{obs} = 0.035 min^{-1}). The degree of labeling of the enzyme by p^1,p^2-bis(5'-pyridoxal) diphosphate was determined by absorption spectroscopy. The blocking of 2 lysyl residues/dimer is needed for inactivation of the transaminase.

The time course of the reaction is significantly affected by the substrate α-ketoglutarate, which afforded complete pretection against the loss of the catalytic activity. Whereas cofator pyridoxal phosphate failed to prevent the inactivation of the enzyme. Therefore, it is postulated that binding of α-ketoglutarate to lysyl residues is the major factor contributing to stabilization of the catalytic site and bifuctional reagent p^1,p^2-bis(5'-pyridoxal) diphosphate blocks lysyl residues other than those involved in the binding of the cofactor.