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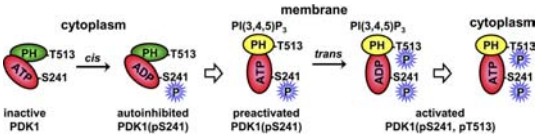
Contents



The PH domain of PDK1 regulates a number of autophosphorylation events, which are required for protein *trans*-phosphorylation activity.The PH domain activates Ser-241 *cis*-autophosphorylation, which is required for catalytic activity. However, the PH domain autoinhibits activated PDK1(pS241) by blocking docking interactions with downstream protein substrates. This mode of autoinhibition is relieved upon binding of the PH domain to the $PI(3,4,5)P_3$ second messenger, which facilitates *trans*-autophosphorylation of Thr-513 in the PH domain. Chemical modification of Thr-513 may cause dissociation of contacts formed between the PH domain and a protein substrate docking site on the catalytic kinase domain.