

PI3K-PKB signal pathway participates in the CDK1 activation, which is necessary for meiosis resumption of mouse oocytes. That's why we wanted to examine the role of PKB in this process more in the details. The activity of PKB is associated with its phosphorylation at Thr308 and Ser473. These phosphorylations are probably independent and influence PKB function. Thr308 phosphorylated PKB is implicated in resumption of meiosis (GVBD), whereas Ser473 phosphorylation is not – as oocytes with reduced phosphorylation on Thr308 have delayed GVBD kinetics and oocytes with inhibited phosphorylation of Ser473 reinitiate meiosis comparably to control oocytes. Conversely, oocyte treatment with synthetic biologically active PtdIns(3,4,5)P<sub>3</sub> leads to stronger phosphorylation at Thr308 and accelerated GVBD kinetics. It was also found, that the kinase responsible for Ser473 phosphorylation in mouse oocytes is ATM.