D109 Presence of putative progesterone binding site on the oocyte membrane of amphibians, *Rana dybowskii*

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Radiolabelled progesterone (P_4) binding to total membrane fraction from denuded oocytes is specific and saturable indicating the presence of putative P_4 binding component in the oocyte surface. Treatment of BSA bound progesterone (P-BSA) which is unable to penetrate the cell membrane due to its conjugated structure, caused oocyte maturation (germinal vesicle breakdown, GVBD) in a dose dependent manner. P-BSA was ineffective in inducing GVBD of intact follicles suggesting that it acts on the oocyte surface only. On the other hand, microinjection of P_4 and P-BSA failed to induce GVBD of oocyte. The genomic P_4 receptor antagonist, RU486 (0.1 μM) did not inhibit oocyte maturation induced by P_4 (1.0 μM) or P-BSA. The present study suggests that P_4 acts through the oocyte membrane receptor in inducing oocyte maturation in *R. dybowskii*. (HRC-96-0101 and 0001)

D110 Activation of intracellular kinases during progesteron induced oocyte maturation in amphibians, *R. nigromaculata*

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Progesterone (P_4)-induced oocyte maturation (germinal vesicle breakdown, GVBD) of frog oocyte is blocked by intracellular kinase inhibitors such as protein kinase C (PKC)-, tyrosine kinase-, S6 ribosomal protein kinase- and cdc2 kinase- inhibitors in a dose dependent manner. These findings suggest that these protein kinases are involved in the signalling pathway for progesterone-induced oocyte maturation. Time course study of oocyte GVBD, the direct measuremet of activaties of PKC and cdc2 kinase, and the identification of C mos protein suggest that PKC, C mos, tyrosine kinase and S6 kinase are essential for activation of cdc2 kinase which is the catalytic subunit of maturation promoting factor (MPF). This study also suugests that above protein kinases are activated upstream of MPF stimulation in P_4 induced oocyte maturation. (HRC -96 -0101)