

Induction of ovulation in *Rana catesbeiana* and *Rana tigerina* by GnRH agonist and the artificial fertilization of the ovulated eggs

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Ovulation in *R. catesbeiana* and *R. tigerina* were artificially induced by various doses of GnRH agonist. The most effective doses were at 90 and 50 µg/kg body weight for *R. catesbeiana* and *R. tigerina*, respectively. The 100% ovulation in all *R. catesbeiana*, occurring 22 hr later was stimulated by a second similar dose of GnRH agonist given 8 hours after the first dose, while the 100% ovulation in *R. tigerina* occurred within 8 hours after the single dose of GnRH. The artificial

fertilizations of the GnRH-ovulated eggs were performed by mixing various concentration of sperm with different number of eggs. The optimal number of eggs that could achieve the best fertilization rate (80–90%) are 150 eggs to sperm at the concentration 1.2×10^4 to 1.2×10^6 sperm/ml. The embryos from the *in vitro* fertilized eggs developed normally, up to the opercular –fold stage.

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