

## Participation of Embryonic Genotype in the Pregnancy Block Phenomenon in Mice

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Pregnancy block by male pheromones in mice differs in incidence depending on the combination of strains. Female mice of BALB/cA strain mated with BALB/cA males show a 100% pregnancy block when exposed to males of inbred strain DDK shortly after copulation (Chung et al., Biol Reprod 1997). In the present study, BALB/cA females mated with the males of other strains (CBA/J, C3H/HeN, C57BL/6Cr, and IXBL) showed higher pregnancy rates (66.6-87.5%) even when they were exposed to DDK males. In the pharmacological induction of pregnancy block with dopamine agonist (Bromocriptine, 4mg/kg BW), BALB/cA females mated with BALB/cA males showed a 100% pregnancy block. In contrast, BALB/cA females mated with CBA/J, C3H/HeN, and C57BL/6Cr males showed higher pregnancy rates (40-70%). These results suggest that the better pregnancy rate of BALB/cA females mated with alien males may be due to the stronger viability of F<sub>1</sub> embryos. This interpretation was confirmed by an embryo transfer experiment in which a higher implantation rate was observed when BALB/cA embryos grown in BALB/cA females exposed to BALB/cA males were transferred into recipient BALB/cA females exposed to DDK males. These results suggest that the embryonic genotype or viability of the embryo is one factor contributing to the occurrence of pregnancy block by male pheromones in mice.

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