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Complete Regeneration of Muscular Dystrophy Chickens by Mating of Male and Female Offspring Derived from Germline Chimeras

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In previous studies, two types of offspring were generated from germline chimera between NH-413 strain (donor) and White Leghorn L-M strain (recipient). Phenotype and symptom of type-I offspring were quite similar to that of the NH-413 strain. In the other offspring of type-II, feather color showed mixture of white and brown and the symptom was not dominantly indicated.

In the present studies, sexually matured males and females of the type-I were mated each other. From these mating, chickens manifesting completely same phenotype to that of the donor NH-413 strain; brown feather color and symptoms of muscular dystrophy, were regenerated. Therefore, complete regeneration of the muscular dystrophy chickens could be achieved by mating males and female offspring derived from the germline chimeras. Fertility, hatchability and survival rate of these regenerated offspring were significantly improved as compared to that of the original NH-413 strain.

The established strategies should be one of the useful systems to regenerate chickens with muscular dystrophy.

Keywords: [chicken](#), [complete regeneration](#), [germline chimera](#), [muscular dystrophy](#)

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