

Meat production by chicken stem cell engineering

Hiroshi Kagami

Faculty of Agriculture, Shinshu University, Japan

Objectives: The present studies were conducted to challenges to production of chicken meat by use of the stem cells. **Materials and Methods;** The fertilized eggs were derived from White Leghorn. The egg shells were broken to access the developing embryos. The stem cell were isolated from the early embryos (Stage X blastoderm). The stem cells were localized in central area of the embryos. The stem cells were used for in vitro culture.

Results and Discussion: The culuted cells possessed undifferentiated ability. Addition of the SCF and LIF enhanced the cell proliferation. It is suggested the developed culture technologies could lead for effective production of cultured chicken meat. The stem cells were also used for donor for chimeric embryos. The manipulated embryos were ex-ovo cultured. Hatched chicks were raized untill sexual maturity. These chimeras were subjected for mating to generate offspring. Meat type chickens; BPR, Silky, were generated by the mating. It is suggested that the stem cell engineering should open up new frontier for chicken culture meat and chicken genetic conservation.

Key words: Meat production, Chicken, Stem cell, Cell culture, Chimera