HOKKAIDO UNIVERSITY

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Hokkaido University granted the degree of Master of Veterinary Medicine to the following 39 graduates of the Graduate School of Veterinary Medicine on 25 March, 1985.

The authors' summaries of their theses are as follows:

SEX DETERMINATION OF MOUSE EMBRYOS BY ANTI MALE SPLEEN CELL SERUM AND MONOCLONAL ANTIBODY

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Sex determination of ddY mouse morulae by immunological means was investigated.

Anti male spleen cell serum was produced by 3 intraperitoneal injections of C57BL/6 male spleen cells into females of the same strain at a dose of 3×10^7 spleen cells / injection. Five days after the last injection, serum was collected and absorbed with ddY female mouse spleen cells.

Day–3 morulae of ddY mouse were cultured in BMOC–3 containing 10% antiserum, which was pooled from six immunized mice, and 10% guinea pig serum as a source of complement.

These embryos were classified as normal or degenerated after 12 hours of culture. Out of 207 embryos treated, 45.4% were found to be degenerated. Approximately 89.7% of the embryos which were not degenerated were found to be females by chromosomal analysis. A significantly higher percentage of females was obtained from embryos that were cultured in antiserum, as compared to untreated embryos ($P<0.01$).

As for the embryos that were cultured in BMOC–3 containing monoclonal antibody, no degeneration of the embryos was observed. This was probably due to failure in cloning or hybrid cell culture.

The results indicate that the sex of ddY mouse morulae can be identified clearly by using anti male spleen cell serum.