



HOKKAIDO UNIVERSITY

Title	CATTLE CHROMOSOME CLASSIFICATION BY G-BANDING PATTERNS
Author(s)	YAMANAKA, Harumichi
Citation	Japanese Journal of Veterinary Research, 24(3-4), 116-116
Issue Date	1976-10
Doc URL	https://hdl.handle.net/2115/2099
Type	departmental bulletin paper
File Information	KJ00003407799.pdf



CATTLE CHROMOSOME CLASSIFICATION BY G-BANDING PATTERNS

Harumichi YAMANAKA

*Department of Veterinary Obstetrics
Faculty of Veterinary Medicine
Hokkaido University, Sapporo, Japan*

A trypsin-giemsa banding technique was carried out in order to identify 30 pairs of cattle chromosomes. Blood samples for the leucocyte culture were derived from 5 phenotypically normal cattle, 3 males and 2 females. The results obtained are summarized as follows :

1) All of the 30 pairs displayed characteristic banding patterns, and the autosomes were classified into 4 groups on the basis of their banding patterns.

Group A (5 pairs): The first positive band just below the centromeric region was most prominent, and the other positive band was observed at the distal end of the chromosome arm.

Group B (13 pairs): The first positive band just below the centromeric region was most prominent, and no positive band was observed at the distal end of the chromosome arm.

Group C (5 pairs): The first positive band was not prominent, and the other positive band was observed at the distal end of the chromosome arm.

Group D (6 pairs): The first positive band was not prominent, and no positive band was observed at the distal end of the chromosome arm.

2) The relative length of each autosome, especially of the smaller ones, varied considerably with preparation ; therefore, identifying such autosomes on the basis of their length alone seemed to be unreliable.

3) A conspicuous difference was observed in staining ability in the centromeric region between the autosomes and the sex chromosomes. In the autosomes the region was either slightly or not at all, whereas in the sex chromosomes it was strongly stained as the most prominent positive band.

4) In conclusion, the trypsin-giemsa banding technique appeared to be most helpful for identification of chromosomes in cattle ; thus, the technique may be valuable in the field of cytogenetics for this species as well as for man.