Restriction endonuclease banding – HaeIII and HinfI, and subsequent C-banding on cattle metaphase chromosomes

F. Adega, R. Chaves, J.S. Heslop-Harrison, Henrique Guedes-Pinto
Department of Genetic and Biotechnology, University of Trás-os-Montes and Alto Douro, Quinta dos Prados, P-5000, Vila Real, Portugal

Restriction endonucleases (RE-s) digestion are known to cause differential digestion of heterochromatic segments showing signs of heterogeneity among blocks of cattle chromosomes (Hidas 1995). The observed heterochromatin heterogeneity is surprising since it does not fit the expected homogeneity in the karyotypes or chromosomes groups of acrocentric chromosomes (Dod et al. 1989). The heterochromatin studies are more and more important on the chromosomes evolution area, although the heterochromatin functions are still a very complex issue. Therefore, is very important, as a first step, to the understanding of heterochromatin the identification and characterization of the chromosomes heterochromatic regions. Here, we used Cattle metaphases and subject it to banding with HaeIII and HinfI restriction enzymes and CMA3 and DAPI fluorochromes. We also submitted these metaphases to sequential C-banding. We found heterogeneity of the heterochromatic regions that can be useful to identify specific chromosomes and can be used for the study of Bos taurus heterochromatin evolution and consequently karyotypes evolution.

References

This work was supported by PRAXIS XXI/BD/9046/96.