CYTOGENETIC INVESTIGATIONS IN SHEEP REARED IN THE SOUTHERN-ITALY BY USING BOTH CHROMOSOME BANDING AND FISH-MAPPING TECHNIQUES

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Several sheep breeds are raised in the Southern-Italy. Two of them are "Laticauda" and "Bagnolese", which are both considered endangered breeds and inserted in projects for genetic conservation and valorization of their products. One of this project is the PSR, Misure 214 e2 of Campania Region. In the present study we report the preliminary results we obtained on Laticauda breed and some their hybrids by using both chromosome banding and fluorescence in situ hybridization (FISH) mapping techniques. Peripheral blood samples from 25 animals (2 males and 23 females) were cultured for 72 hours and treated for late-incorporation of 5-Bromodeoxyuridine (BrdU) to obtain R-banded chromosome preparations which were used for both karyotype construction and FISH-mapping applications.

R-banded karyotypes were performed by using the GENIKON software and following the latest international chromosome nomenclature. For FISH-mapping, both ovine and bovine BAC-clones were used, biotinilated by Nick-translation and precipitated in ethanol in presence of COT-DNA. Then they were in situ hybridized on R-banded chromosomes for a night (about 17 hours) and hybridization signals detected by using Vector chemicals. At least 30 metaphase for probe were studied by using a fluorescence microscope equipped with a digital camera and computer.

Karyotype construction revealed a normal karyotype for all studied animals except a female sheep which was found to be carrier of a reciprocal translocation between chromosomes 4 and 12. Concerning the FISH-mapping, examples of locus assignments are reported in both autosomes and X-chromosome.

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