

CHROMOSOME EVOLUTION OF MEDITERRANEAN MOLE RATS (SPALAX, SPALACIDAE, RODENTIA): AN UPDATE

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Mediterranean mole rats presently grouped in two superspecies (*Spalax ehrenbergi* and *S. leucodon*) have explosive radiation of chromosome evolution. This group includes more than 50 cytotypes with diploid numbers (2n) ranging from 38 to 60 and the number of chromosomal arms (NF) from 70 to 124. Very scanty information on differential stained chromosomes and lack of molecular cytogenetic data significantly complicate insight into evolution processes in this group.

Here we present comparative cytogenetic studies based on C-, G-banding, Ag NORs, fluorochrome staining and fluorescence in situ hybridization (FISH) with telomeric and rDNA (45S) probes of nine *S. leucodon* cytotypes from 21 localities in northern and northwestern Turkey, and of four *S. ehrenbergi* cytotypes (2n=60, 58, 54 and 52) from Israel.

G-banding technique allowed us to recognize two different cytotypes of 2n=60, denoted as types A and B. Although karyotypes of all 2n=60 populations had the same value of NF and similar intra-population variability of the first pair, the cytotypes A and B presented different G-banding patterns in three subtelocentric pairs. These cytotypes diverged considerably from each other by localization of rDNA sites as well. The geographic distribution of the cytotype A appears to be larger than that of the cytotype B.

Comparative analyses of C-banded chromosomes shown, that *S. leucodon* cytotypes had lesser amount of heterochromatin than *S. ehrenbergi*. Short arms of some subtelocentric chromosomes contained C-positive blocks in *S. leucodon*, whereas biarmed autosomes in *S. ehrenbergi* cytotypes possessed either small centromeric heterochromatin blocks or were C-negative and all acrocentric chromosomes had large heterochromatin blocks. The heterochromatin in *S. ehrenbergi* cytotypes was largely GC-rich, while heterochromatin in *S. leucodon* cytotypes was defined both as AT- and GC-rich.

According to the results of FISH, telomeric sites of most chromosomes in *S. leucodon* cytotypes were characterized by symmetrical signals contrary to enlarged above-centromeric hybridization signals in acrocentric chromosomes in *S. ehrenbergi* cytotypes.