

## BrdU处理的鱼类染色体高分辨G-带带型分析\*

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**摘要** 本文应用鱼类染色体高分辨G-带技术,重点将黄鳝培养细胞具不同长度染色体的正中期分裂相做成G-带核型加以比较分析。随着染色体长度的增加,带纹数目也增加。但增加是有限度的。染色体带纹数目的增加,明显地表现在深染带再分为若干亚带。当染色体从前期中、后期过渡收缩变短时,一些亚带融合为原来数目的带。染色体上各个带的收缩程度、收缩时间是不均等的。实验证明大剂量的BrdU不仅能阻断鱼类细胞于中S期,也可使染色体伸长、小剂量的伸长作用不明显。最后讨论了BrdU处理与G-显带的关系、染色体带纹数目相对恒定以及染色体伸长缩短问题。

**关键词** [鱼类,染色体,G-带](#)

分类号

## Analysis of High-resolution G-banding Pattern in Fish Chromosomes Treated by BrdU

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### Abstract

The chromosome high-resolution G-banding technique was applied to study and analyse the high-resolution G-banding pattern in fish, especially in *Monopterus albus* chromosomes treated by BrdU. Comparing the high-resolution G-banded karyotype of full-metaphase chromosomes with that of different mitotic figures with different contract degrees, it was observed that chromosomes with different lengths have different numbers of bands. The band numbers increased with the increase in chromosome length. However, not all of the chromosome bands increased so obviously. In the same mitotic figure, some chromosomes, such as chromosomes Nos. 4 and 6, although the length of full-metaphase, the chromosome bands did not increase. It appears that the band numbers of each chromosome seems definite, therefore, when the chromosomes elongated too long, its bands are not as clear as those of metaphase chromosomes. The increase of chromosome band numbers in our experiment showed obviously the subdivision of dark bands. For example, one dark band in the shortened chromosomes can be subdivided into 3, 5, or 7 subbands on the elongated chromosomes (No. 1, 2, 4, 5, and X chromosomes). When the chromosomes contracted and shortened gradually from prophase to metaphase these subbands also fuse into the original bands. The contraction degree and the contraction time of each band on one chromosome were not equal. The experiment indicated that the large dosage of BrdU not only blocked the fish cell cycle at the middle of S phase, but also elongated chromosomes. However, the small dosage did not elongate chromosomes obviously. The relation between BrdU treatment and G-banding, and the problem of the relative constance of chromosome band numbers of the chromosome elongation and contraction treated by BrdU were discussed. Fish, Chromosome, G-band

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**Key words** [Fish](#) [Chromosome](#) [G-band](#)

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