Karyological Characterization of Swamp Eel (Monopterus albus) Inferred from Molecular Cytogenetic Approach

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ABSTRACT

Karyological characterization of swamp eel (Monopterus albus) was performed by conventional Giemsa staining, C-banding, FISH with the 18S–28S rRNA genes. The chromosome number was 2n = 24 (FN = 24), all of which were acrocentrics. Large C-positive heterochromatin blocks were found at the centromeric and the telomeric regions of the intermediate-sized acrocentric chromosome one pair. Simultaneously, these regions were intensely stained with propidium iodide (PI), suggesting that molecular structure of C-heterochromatin of M. albus contains GC-rich repetitive sequences. Hybridization signals of 18S–28S rRNA gene were observed at the centromeric region in the large C-positive bands. These results collectively suggest that heterochromatin-related repetitive sequences were amplified in concert manner with the 18S–28S rRNA gene cluster.

Keywords: chromosome, swamp eel, C-banding, heterochromatin, PI staining, FISH

บทคัดย่อ

การตรวจคัดศาสตร์ลักษณะแคริโอไทป์ของปลาไหลนา (Monopterus albus) ตัวยาวิทัศน์เซลล์พันธุศาสตร์ในระดับโมเลกุล

การวิเคราะห์ลักษณะแคริโอไทป์ของปลาไหลนา (Monopterus albus) ด้วยวิธีทางเซลล์พันธุศาสตร์ในระดับโมเลกุล

Bibliographic Information

Thai J. Genet. 2013, S(1): 428

PAO-11-37

พันธุศาสตร์ก้าวหน้าสู่อาเซียน (Genetics towards ASEAN)

17-19 กรกฎาคม 2556 ณ โรงแรมแอมบาสเดอร์ สุขุมวิท กรุงเทพมหานคร