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鲤鱼、鲫鱼和鲤鲫移核鱼DNA的复筒动力学研究与比较*

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摘要 本文报道鲤鱼、鲫鱼DNA复性动力学研究结果。它们均由快、中、慢速复性3个组份构成。鲤 鱼DNA中Cot＜1×10-1的复性组份占7.5%，1×10-1＜Cot＜1×10 2的复性组份占22%；5×10 -1＜Cot＜1×10 2的复性组份占6%，Cot＞1×10 2 的复性组份占70%。它们都没有明显百分 数的迥近序列组份；快速复性组份的拷贝数低于10 6，相当于中度重复序列Ⅰ；中、慢速复 性组份则分别为中度重复序裂Ⅱ和原拷贝序列。在快速复性部份，鲤鱼与鲫鱼之间表现出较 大差异。此外，本文还就鲤鱼和鲫鱼的DNA复性动力学与鲤鲫移核鱼(CyCa)F3进行了比较。鲤鲫移核鱼DNA的复性动力学特征与其细胞核供体鱼(即鲤鱼)是相似的。这说明异源细胞核 与细胞质的结合没有导致核内DNA基因组结构出现明显变化。

关键词 鱼,移核,DNA 复性,基因组结构

分类号

Comparative Studies on Ressociation Kinetics Between Cyprinus carpio,Carassius a uratus and Nuclearcytoplasmic Hybrid Fish (CyCa)F*3

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Abstract

In order to find out if any changes are induced at genome level after C.carpio n uclei have been transplanted into C.auratus cytoplasm.Their DNA ressociation kin etics has been studied.It was found that the nuclear-cytoplasmic hybrid fish (Cy Ca) Fs is the same as C.carpio.Both of their genomic organiations are constructed by fast (Cot＜1×10 -1),medium (1×10 -1＜Cot＜1×10 2),and slow (Cot＞1×10 2) speed ressociation components with 7.5%,17.5% and 75%,respectively.However,C.au ratus genome is very different,separately 22% (Cot＜5×10 -1),6% (5×10 -1＜Cot 1×10 2) and 70% (Cot＞1×10).It was suggested that nuclear genome is not affect ed by heterologou gous cytoplasm in our nuclear transplant process.

Key words Fish Nuclear transplant DNA ressociation Genome organization

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