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急性盐度胁迫对克氏双锯鱼幼鱼过氧化氢酶的影响

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Effect of acute salinity stress on catalase of juvinile *Amphiprion clarkii*

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摘要 图/表 参考文献(0) 相关文章 (15)

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摘要

研究了盐度急性变化（盐度35降至30、25、20、15）对克氏双锯鱼（*Amphiprion clarkii*）幼鱼鳃丝和肝脏过氧化氢酶(CAT)活性及其mRNA在鳃丝中表达的影响。结果表明，盐度从35突变至15的范围内对克氏双锯鱼的成活率没有影响。低盐度处理组（30、25、20和15）肝脏、鳃丝CAT活性24 h内均呈上升趋势，且盐度变化幅度越大酶活性增强的幅度越大，第48小时后均下降，至第96小时均降至与对照组无显著差异（$P>0.05$）。鳃丝中CAT mRNA表达量在低盐度处理下，于第6小时后表达量开始上升，第12小时上升明显，与对照组差异显著（$P<0.05$），第96小时全部低盐处理组与对照组相比较均无显著差异（$P>0.05$）。实验结果表明，盐度变化对克氏双锯鱼幼鱼的CAT活性存在重要的影响，所测定组织中CAT活性于第96小时均恢复至正常水平，表明克氏双锯鱼幼鱼具有较强的盐度适应能力。

关键词 ： 盐度, 克氏双锯鱼, 过氧化氢酶, 基因表达, 鳃, 肝脏

Abstract :

We studied the change of catalase activity in gill and liver and catalase gene expression in gill of juvenile *Amphiprion clarkii* at an abrupt change in salinity from 35 to 15 (at decrement of 5, control: 35). The results show that the change of salinity caused no significant difference in survival. The CAT activity in liver and gill of *A.clarkii* showed an upward trend at salinities of 30, 25, 20 and 15 in 24 h. Besides, the changing range of CAT activity increased with increasing salinity change. All CAT activities had been decreasing since 48th hour and was not different from that of the control till 96th hour ($P>0.05$). The CAT mRNA expressions in gill at salinities of 30, 25, 20 and 15 had been increasing since 6th hour and increased significantly at 12th hour, which were different from the control significantly ($P<0.05$). All CAT mRNA expression showed no significant difference from the control ($P>0.05$) at 96th hour. Therefore, salinity change had important effect on CAT activity of *A.clarkii*, and the CAT activities of tissues restored to the normal level in 96 h, showing strong salinity adaptability of *A.clarkii*.

Key words : salinity *Amphiprion clarkii* catalase gene expression gill liver

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