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水稻类Tubby蛋白质在叶片生长和白叶枯病抗性反应中的表达

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Expression of Tubby-like Proteins in Rice Leaves and During Interactions Between Rice and *Xanthomonas oryzae* pv. *oryzae*

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摘要 类Tubby蛋白质(Tubby-like protein, TLP)在动植物中广泛存在, 暗示其在生命过程中发挥重要的作用。水稻(*Oryza sativa*)基因组中有14个TLP家族成员, 首先制备了这些蛋白质的抗体, 用免疫印迹方法检测了它们在水稻叶片不同生长时期的表达情况, 揭示其表达模式; 然后对*Xa21*介导的水稻白叶枯病抗性反应不同时间点进行检测, 发现OsTLP2、OsTLP7、OsTLP8和OsTLP9等4个蛋白质的表达发生了变化; 进一步比较它们在抗病、感病反应和对照处理中的表达情况, 发现不同反应间的表达也有区别。该研究结果为阐释水稻TLP在叶片生长过程中的功能, 尤其是在水稻-白叶枯病菌互作过程中的作用提供了重要线索。

关键词: 白叶枯病菌 水稻 类Tubby蛋白质 免疫印迹 *Xa21*

Abstract: The universal existence of tubby-like proteins (TLPs) both in animals and plants implies that TLPs may play key roles in basic biological processes. In rice genome there are 14 members of TLP genes. We examined the expression of TLPs in rice leaves at different developmental stages with TLP-specific antibodies. We also investigated the expression pattern of TLPs at different times in incompatible responses mediated by bacterial blight-resistant gene *Xa21* against *Xanthomonas oryzae* pv. *oryzae (Xoo)*. We found that the expression of OsTLP2, 7, 8 and 9 varied in incompatible responses and that the expression patterns varied among compatible interaction, incompatible interaction and mock control. These results provide important clues for the interpretation of TLP function in rice, especially in the interaction between rice and *Xoo*.

Keywords: bacterial blight rice tubby-like protein western blot analysis *Xa21*

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