F839 Effect of plant growth regulators on the expression of root-specific clone PVR3 encoding non-specific lipid transfer protein in the roots of bean(*Phaseolus vulgaris* L.) seedlings.

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Previously we have reported that the expression of PVR3 encoding non-specific lipid transfer protein was root-specific and developmentally regulated within the roots of bean(*Phaseolus vulgaris* L.) seedlings. In this study, we analyzed the effect of NAA and kinetin on the root development and the accumulation of PVR3 mRNA with *in situ* hybridization and northern blot analysis in roots of bean seedlings. *In situ* hybridization analysis showed that PVR3 mRNA specifically accumulated in the cortical cells of proximal and ground meristem but not in the quiescent center in primary roots. The pattern of PVR3 mRNA accumulation during laterial root development was similar to that observed during primary root development. The roots of bean seedlings treated with 5uM NAA exhibited an altered phenotype; radially expanded root with excess adventitious roots development. The accumulation of PVR3 mRNA drastically decreased after 4 hours of 5uM NAA treatment, but recovered slowly after 48 hours. The pattern of PVR3 mRNA distribution in NAA treated roots of seedling was different from that of not treated roots of seedling in the proximal meristem and root cap. Retardation of overall root development was observed in roots of bean seedlings treated with 10uM kinetin. The pattern of PVR3 mRNA distribution in kinetin treated roots of bean seedlings was similar to that of not treated roots of bean seedlings. Time course of PVR3 mRNA accumulation was also reduced gradually but recovered after 24 hours treatment with 10uM kinetin. From these results, we suggested that the expression of PVR3 is cortical tissue specific and is regulated by plant growth regulators