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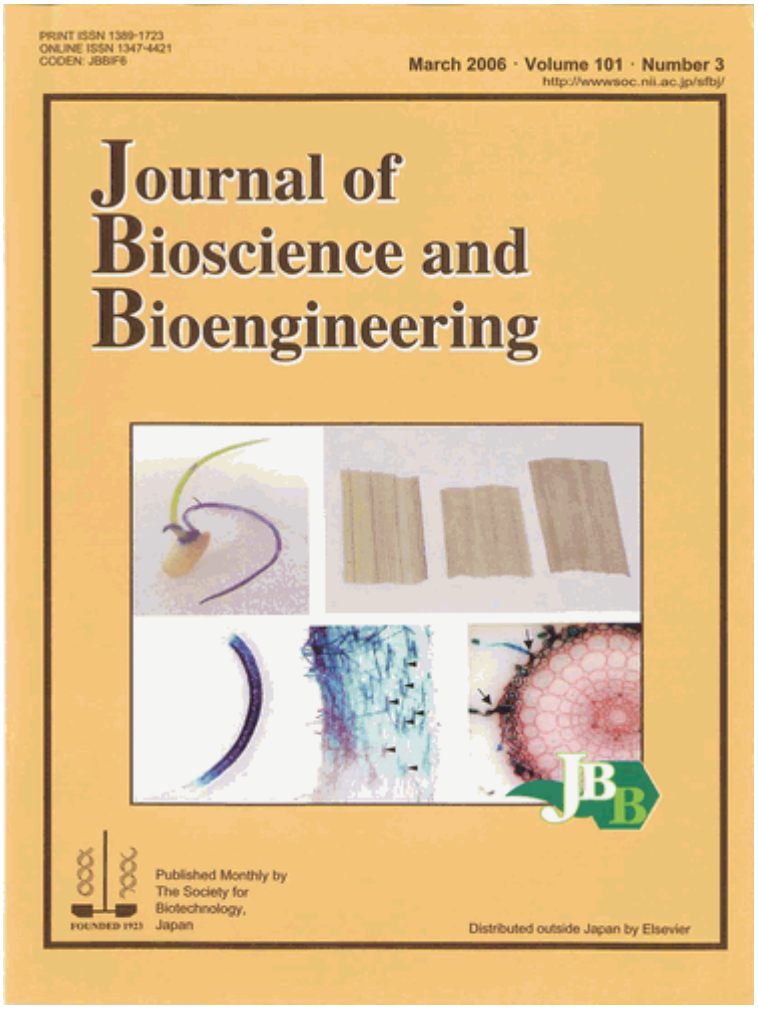

***Arabidopsis PHT1* promoter available for root-specific expression of heterologous genes in dicots and monocots.**

The promoter of *PHT1* encoding phosphate transporter of *Arabidopsis* thaliana was fused to β-glucuronidase (GUS) gene and the construct (*PHT1* promoter::*GUS*) was introduced into *Arabidopsis* and rice. Histochemical localization of GUS activity of a T1 rice plant indicated that plantlet exhibits strong GUS activity in roots (above left), GUS signal is not found in the leaves (above right), strong GUS signal is observed in the roots except for root tip (below left), GUS signaling is stronger in cells that generate root hairs than in cells that do not (below middle), and that root hair cells show strong GUS activity (transverse section).

The results obtained indicated that the dicot promoter can function efficiently in monocot plants, and that the PHT1 promoter is a practical promoter for root-specific expression of heterologous genes both in dicots and monocots.

Related article: Koyama, T., Ono, T., Shimizu, M., Jinbo, T., Mizuno, R., Tomita, K., Mitsukawa, N., Kawazu, T., Kimura, T., Ohmiya, K., and Sakka, K., "**Promoter of *Arabidopsis thaliana* phosphate transporter gene drives root-specific expression of transgene in rice**", **J. Biosci. Bioeng., vol.99, 38-42 (2005)**.

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