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## Functional analysis of transgenic rice plants expressing a novel mutated ALS gene of rice

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### Abstract:

We performed functional analysis of transgenic plants expressing the W548L/S627I mutated ALS gene from rice as well as studies on inheritance of the mutated gene, phenotype and fertility of transgenic plants to ensure availability of the mutated gene as a selectable marker for plant genetic transformation. Expression levels of the ALS (endogenous+mutated ALS) gene of transgenic rice plants were correlated with the resistance of transgenic plants to bispyribac-sodium (BS). The BS-resistant trait of a transgenic plant was stably inherited by the progeny in a Mendelian manner. A homozygote of transgenic plants harboring the mutated gene was normal in its growth and fertility compared with the wild type. These results ensured that the W548L/S627I mutated gene from rice can be efficiently used as a selectable marker for genetic transformation of rice in combination with BS.

### Keywords:

acetolactate synthase, acetohydroxyacid synthase, ALS, AHAS, pyrimidinylcarboxylates, bispyribac-sodium

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