

Salt Tolerance in a Rice Mutant and Salt-Related Gene Expression

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Objectives

The present work were to produce and assess new salt tolerance lines in rice by utilizing *in vitro* mutagenesis.

Materials and Methods

Plant material: Dongjinbyeo and its M4 mutants (1,000 lines)

Test of salt tolerance

Seedling stage screening: salt concentration-0.75%, period of culture-4 weeks.

Field screening: lines selected at seedling stage were planted on reclaimed land.

Investigated items: MDA, proline, chlorophyll a and b, Na⁺, K⁺, and Northern blot with OEE1 and ATPase.

Results and Discussion

Under salt stress, the plant height, root length, and root number of salt tolerant line were statistically significant compared to its original variety, which is completely died in 4 weeks. The proline, chlorophyll and K⁺ of salt tolerant lines were increased from 1.2-fold to 1.5-fold. The MDA and Na⁺ were decreased in salt tolerant lines over Dongjinbyeo. The tolerant lines showed over a 2-fold increase in each OEE1 and ATPase expression.

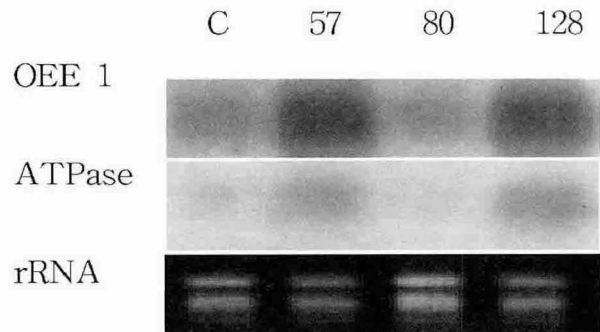


Fig. 1. Northern blot of OEE1 and ATPase.