

# **RESEARCHING ON CANDIDATE GENE *Xa4* FOR RESISTANCE TO BACTERIAL LEAF BLIGHT IN VIETNAMESE NATIVE RICE VARIETIES**

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## **Summary**

The dominant *Xa4* gene is located on chromosome 11, which is widely used in Asia's bacterial leaf blight rice breeding programs. In China, most commercial hybrid rice lines and traditional indica rice varieties were had *Xa4* gene. *Xa4* gene combined with *xa5*, *Xa7* and *Xa21* to pyramided into one genetic background, will create rice variety which has a broad spectrum and stable bacterial leaf blight resistance. In this study, based on the sequence data of 50 native rice varieties, we have we have screened candidate gene *Xa4* in 50 sequenced rice varieties, which identified 10 rice varieties have percentages of T, C, A, G and nucleotide total are similar to the published *Xa4* reference gene. In CDS region, we identified 38 rice varieties have in both amino acid total (706 aa) and the number of amino acid components are similar to reference gene, 12 rice varieties have a change in the number of amino acid components; Besides, we identified 29 positions of 12 sequences of 12 rice varieties have nucleotide deletion or insertion sequences. This result is very significant in the study of resistance and function of *Xa4* gene, thereby serving bacterial leaf blight rice breeding programs.

Keywords: *Bacterial leaf blight, candidate gene, Xa4, rice, CDS.*