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## **New Haplotypes of *Badh1* Reveal Association with Salt Tolerance during Domestication**

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### **[Introduction]**

The *BADH1* gene is a paralogues of the *BADH2* gene, a fragrance trait in rice. Its gene function and domestication processes are rare and mysterious yet.

### **[Materials and Methods]**

We used 421 rice cultivars, and 54 wild rice (as outgroup) sequencing data to investigate domestication evidence of *BADH1* in cultivated rice.

### **[Results and Discussion]**

We found 113 alleles of *BADH1* from cultivated and wild rice. Five out of 113 alleles were only found in cultivated rice. That suggest gene expansion event cultivated rice. The other 11 alleles were found simultaneously in wild and cultivated rice. We tested the association of phenotype with salt tolerance using selected 415 accessions of rice. We found 23 alleles, having significant correlation with salt tolerance. The results from our studies are expected to be utilized for the crop breeding as an improving varieties of rice.

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