

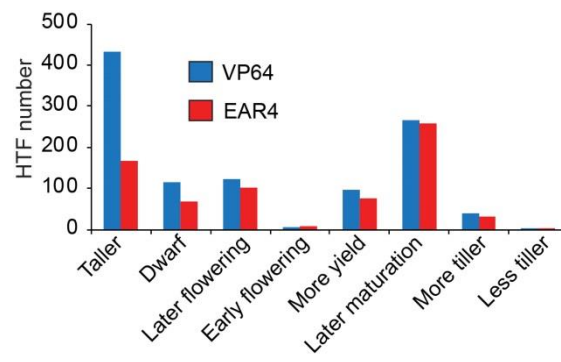
## SUPPLEMENTAL INFORMATION

### Generation of Large-scale HTF transgenic Lines

We first constructed six Gateway-based primary T-vectors that contain Basta (pBNE, pBNV, pBCE, pBCV) or Hygromycin (pHNE and pHNV) selection markers, respectively (Supplemental Vector Maps and Sequences; pBNE, pBNV, pBCE, pBCV, pHNE or pHNV is assigned with a vector ID of 1 to 6 respectively). A total of 3,148 rice (*Oryza sativa subsp. Japonica*) TFs, representing 2404 loci and 80 TF families, were identified from the PlantTFDB (<http://planttfdb.cbi.pku.edu.cn/>) and PlnTFDB ([plntfdb.bio.uni-potsdam.de](http://plntfdb.bio.uni-potsdam.de)) databases (Jin et al., 2014; Perez-Rodriguez et al., 2010). ORFs of 1685 (representing 1610 loci) of those TF genes were cloned into the pDONR vector (pDONR/zeo, Invitrogen) by BP reaction (Supplemental Table 1), which were inserted into the pBCV or pBCE vector that contain VP64 or EAR4 fused to the C-terminal of TF (CV or CE), respectively, or into the pBNV, pHNV, pBNE or pHNE vector that contain VP64 or EAR4 at the N-terminal of TF (NV or NE). We obtained 2980 HTF Ti plasmid constructs (Supplemental Table 2), which were transformed into rice accession Kitaake individually by Agrobacteria-mediated transformation method, resulting in a total of 57,751 independent transgenic events (Supplemental Table 3). We systematically investigated five phenotypes, including heading date, maturation date, plant height, tiller number and yield in comparison to the wild-type parents. Individual lines of this work can be requested by scientist for research purpose. For general public availability, we are working to obtain permission from MOA and CAAS, and then resolve the logistical issues of propagation, sorting, and distribution.

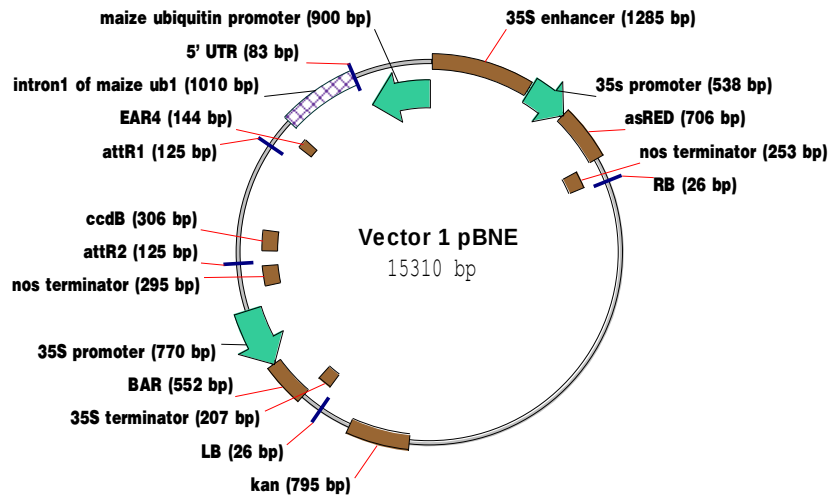
### SUPPLEMENTAL REFERENCES

- Jin, J., Zhang, H., Kong, L., Gao, G., and Luo, J. (2014). PlantTFDB 3.0: a portal for the functional and evolutionary study of plant transcription factors. *Nucleic Acids Res* 42:D1182-1187.
- Perez-Rodriguez, P., Riano-Pachon, D.M., Correa, L.G., Rensing, S.A., Kersten, B., and Mueller-Roeber, B. (2010). PlnTFDB: updated content and new features of the plant transcription factor database. *Nucleic Acids Res* 38:D822-827.



**Supplemental Figure 1.** The number of HTFs in EAR4 or VP64 configuration showing indicated phenotypic alterations.

## Supplemental Vector Maps and Sequences



> vector 1 pBNE

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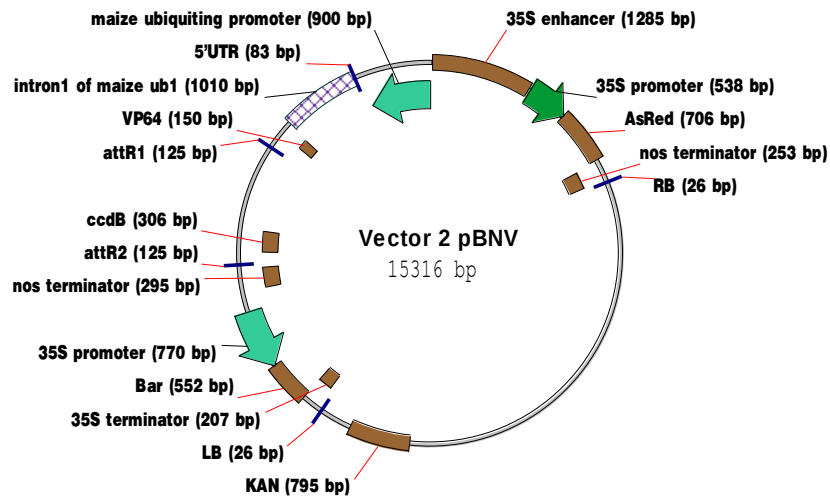
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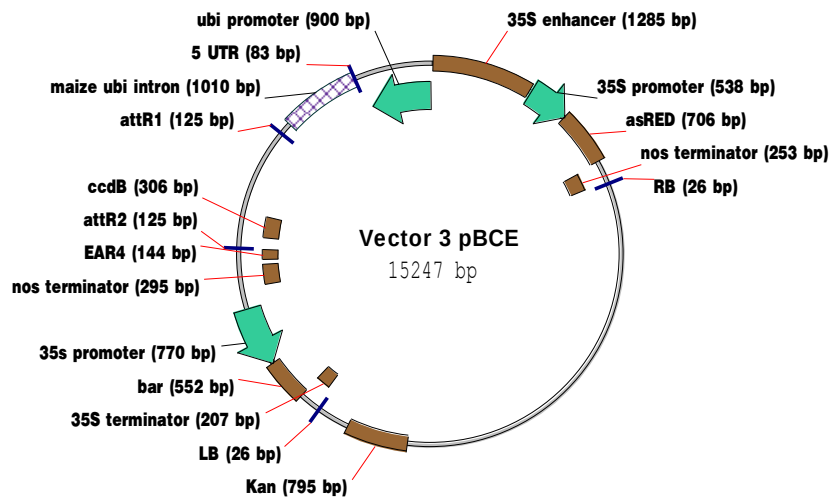
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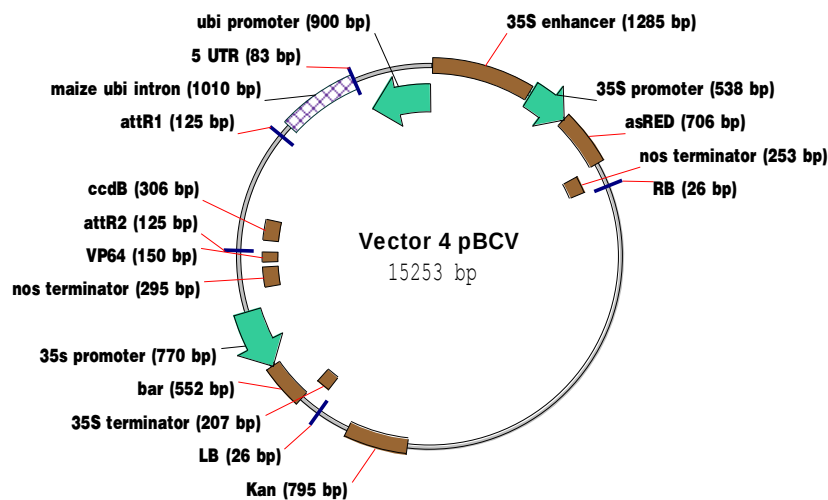
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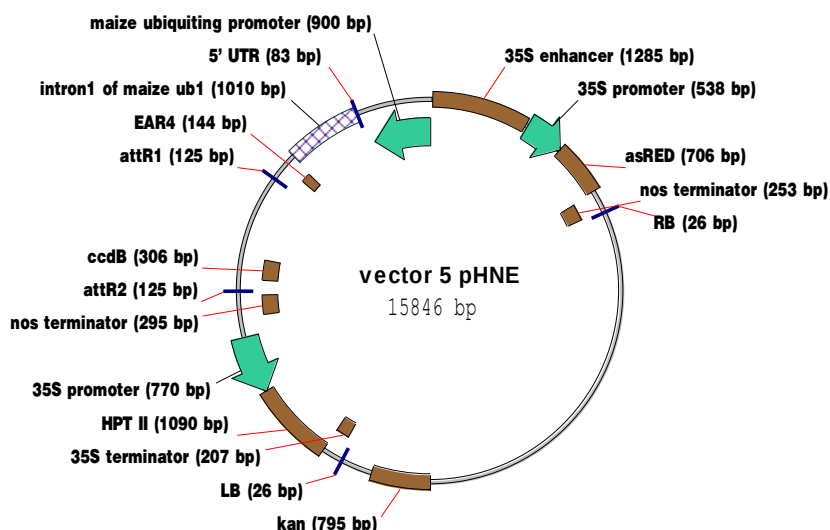
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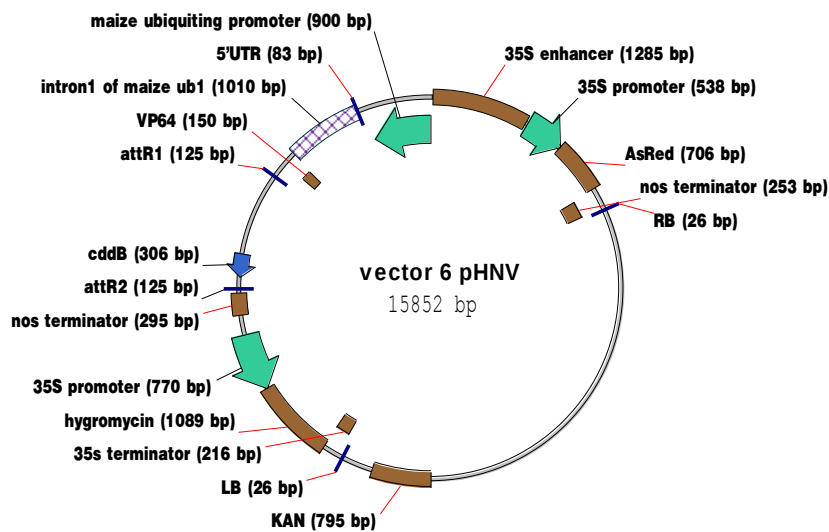
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