

## Transformasi gen OsERA1 (*Oryza sativa* Enhanced Response to ABA1) ke Kalus Padi cv. Taipei 309 menggunakan *Agrobacterium tumefaciens*

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### Abstrak

Telah dilakukan penelitian yang bertujuan untuk melakukan transformasi gen OsERA1 ke kalus padi cv. Taipei 309 menggunakan *Agrobacterium tumefaciens*. Gen OsERA1 adalah gen yang berperan dalam meningkatkan sensitifitas dari sel penjaga pada stomata terhadap asam absisat. Transformasi gen OsERA1 dilakukan menggunakan *Agrobacterium tumefaciens* strain LBA4404 yang membawa plasmid rekombinan pCAMBIA1301-OsERA1. Gen OsERA1 telah dikloning sebelumnya pada vektor pengklonaan pGEM-T Easy. Gen dipotong dengan enzim restriksi BamHI dan SalI. Gen diligasikan dengan pCAMBIA 1301 dan ditransformasikan ke dalam *Escherichia coli* DH5 dihasilkan vektor rekombinan pCAMBIA-ERA1. Plasmid vektor rekombinan pCAMBIA-ERA1 belum berhasil ditransformasi ke dalam *Agrobacterium tumefaciens* dengan elektroporasi tetapi berhasil dilakukan dengan particle bombardment.

.....Research about transformation of OsERA1 gene into rice calli cv. Taipei 309 using *Agrobacterium tumefaciens* had been done. OsERA1 gene is a gene that has response to enhance sensitivity of guard cell to abscisic acid. Transfer of OsERA1 gene into calli was carried out using *Agrobacterium tumefaciens* strain LBA4404 harboring recombinant plasmid pCAMBIA1301-OsERA1. OsERA1 gene had been cloned previously in the pGEM-T Easy cloning vector and for inserting into pCAMBIA1301, the gene was digested from cloning vector using restriction enzymes BamHI and SalI. Furthermore, the gene was ligated into vector pCAMBIA 1301 and transformed into *Escherichia coli* DH5 in order to obtain recombinant plasmid pCAMBIA-OsERA1. The recombinant plasmid pCAMBIAOsERA1 has not successfully transformed with electroporation into *Agrobacterium tumefaciens* yet, but it can be transformed by particle bombardment method.