

*AGROBACTERIUM-MEDIATED TRANSFORMATION
OF OMEGA-3 DESATURASE
GENE INTO RICE CALLI*

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Lihat Sebelah

***AGROBACTERIUM-MEDIATED TRANSFORMATION OF
OMEGA-3 DESATURASE GENE INTO RICE CALLI***

By
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A PITA research report submitted in partial
fulfilment of the requirements for the award of the degree of
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**DEPARTMENT OF BIOLOGICAL SCIENCES
FACULTY OF SCIENCE AND TECHNOLOGY
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Adalah ini diakui dan disahkan bahawa laporan PITA bertajuk: Transformasi perantaraan *Agrobacterium* ke atas gen *Omega-3 Desaturase* ke dalam kalus beras, no matrik: uk23468 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah SARJANA MUDA SAINS (SAINS BIOLOGI), Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu

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DECLARATION

I hereby declare this PITA research entitled *Agrobacterium*-Mediated Transformation of *Omega-3 Desaturase* Gene into Rice Calli is the result of my own research except as cited in the references.

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AGROBACTERIUM-MEDIATED TRANSFORMATION OF OMEGA-3 DESATURASE GENE INTO RICE CALLI

ABSTRACT

Current study is an attempt to transform the *Omega-3 desaturase* gene into rice calli using *Agrobacterium*-mediated technique. The effect of vanillin concentrations at 0, 200 and 400 mM on the rate of transformation was examined. *Agrobacterium tumerfaciens* LBA 4404 harbouring *Omega-3 desaturase* gene and *hygromycin phosphotransferase* gene (*hpt*) conferring resistance to hygromycin was used as marker and selection of putative transformant. GUS histochemical assay provided the first evidence of the transgene and further confirmed using PCR analysis. 400 mM of vanillin showed the significant effect in rice growth and transformation efficiency.

TRANSFORMASI PERANTARAAN *AGROBAKTERIUM* KE ATAS GEN *OMEGA-3 DESATURASE* KE DALAM KALUS BERAS

ABSTRAK

Kajian semasa adalah suatu percubaan untuk mengubah gen *Omega-3-desaturase* ke dalam kalus beras menggunakan teknik *Agrobacterium*-pengantara. Kesan kepekatan vanillin pada 0, 200 dan 400 mM pada kadar transformasi telah diperiksa. *Agrobacterium tumerfaciens* LBA 4404 pelindungan gen *Omega-3 desaturase* dan gen *phosphotransferase hygromycin (HPT)* memberikan tentangan kepada hygromycin telah digunakan sebagai penanda dan pemilihan putatif berubah. GUS assay histochemical mengemukakan bukti pertama transgen dan selanjutnya disahkan menggunakan analisis PCR. 400 mM daripada vanillin menunjukkan kesan yang besar dalam pertumbuhan beras dan kecekapan transformasi.

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