

CLONING AND IDENTIFICATION OF 240BP PARTIAL EXPRESSED GENE
FRAGMENT AMPLIFIED FROM MUSCLE TISSUE OF OMEGA-3 ENRICHED
AFRICAN CATFISH (*Clarias gariepinus*)

By
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Research report submitted in partial fulfillment of the requirements for the degree of
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**FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK ILMIAH I DAN II**

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk:

Cloning and identification of 240bp partial gene fragment amplified from muscle tissue of omega-3 enriched African catfish (*Clarias gariepinus*) oleh Khuzaimah binti Ahmad, no.matrik UK13459 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Perikanan dan Akuakultur sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains Agroteknologi (Akuakultur), Fakulti Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu.

Disahkan oleh:

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Penyelia Utama

Nama: En.Shahreza bin Md. Sheriff

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Tarikh:

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Penyelia Kedua (jika ada)


Nama:

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DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been dully acknowledged.

Signature : 
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Matric no. : UK 13475
Date : 13th May 2009

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ABSTACT

A study was done to clone and identify a 240bp partial gene fragment which was highly expressed in muscle tissue of omega-3 enriched African catfish. RNA was extracted from muscle tissue of African catfish using TRI-Reagent method and DD RT-PCR was conducted using arbitrary primer 14. This study had successfully cloned the 240bp fragment obtained and later sent for sequencing. After the sequence of the 240bp fragment obtained, it was sent for blast in the GenBank and 240bp fragment had high similarities with cytochrome b gene from *Clarias gariepinus* (4e-31). This shows that the 240bp fragment is probably a cytochrome b gene. Cytochrome b is one type of cytochrome and a type of protein. Since it was highly expressed in muscle tissue of omega-3 enriched African catfish, further study need to be done to characterize the expressed gene and by doing this, it can lead to a better understanding about the gene and its regulation in African catfish muscle tissue.

ABSTRAK

Satu kajian telah dijalankan untuk mengklon dan mengenalpasti 240bp fragmen yang dihasilkan daripada tisu otot ikan keli Afrika yang telah diperkayakan dengan omega-3. RNA telah diekstrak daripada tisu otot ikan keli Afrika menggunakan kaedah TRI-Reagent dan DD RT-PCR telah dijalankan menggunakan arbitrary primer 14. Kajian ini telah berjaya mengklon 240bp fragmen yang telah diperoleh dan selepas itu ianya dihantar untuk penjujukan. Selepas jujukan 240bp fragmen diperoleh, ia dihantar untuk blast di dalam GenBank dan 240bp fragmen ini mempunyai persamaan yang tinggi dengan gen cytochrome b daripada *Clarias gariepinus* (4e-31). Ini menunjukkan bahawa 240bp fragmen ini berkemungkinan adalah gen cytochrome b. Gen cytochrome b merupakan salah satu jenis cytochrome dan ia adalah sejenis protein. Memandangkan bahawa gen cytochrome b ini dihasilkan dengan jumlah yang tinggi di dalam tisu otot ikan keli Afrika yang telah diperkayakan dengan omega-3, kajian lebih lanjut dan terperinci perlu dijalankan untuk mengetahui mengenai gen yang dihasilkan dan dengan ini dapat memberi pemahaman yang lebih lanjut terhadap gen tersebut dan regulasinya di dalam tisu otot ikan keli Afrika.