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Isolation and identification of polysaccharide producing bacterium from marine sponge (haliclona sp).

Lihat sebelah

ISOLATION AND IDENTIFICATION OF POLYSACCHARIDE PRODUCING BACTERIUM FROM MARINE SPONGE, *Haliclona* sp.

By
Wan Aaisyah binti Wan Mohamad

Research Report submitted in partial fulfillment of the requirements for the degree of Bachelor of Science (Marine Biology)

Department of Marine Sciences
Faculty of Science and Technology.
UNIVERSITY OF COLLEGE SAINS AND TECHNOLOGY MALAYSIA.
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JABATAN SAINS SAMUDERA
FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
Isolation and Identification of Polysaccharide Producing Bacterium from Marine Sponge *Haliclona* sp. oleh Wan Aaisyah binti Wan Mohamad, UK 6684 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Samudera sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains (Biologi Marin), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

Disahkan oleh:

.....

Penyelia Utama
Nama: DR AHMAD SHAMSUDDIN B. AHMAD
Ketua
Jabatan Sains Samudera
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
21030 Kuala Terengganu
Cop Rasmi

Tarikh: 24/3/05

.....

Penyelia Kedua (jika ada)
Nama: NAJIAH BINTI MUSA (Ph. D)
Pensyarah
Jabatan Sains Perikanan dan Akuakultur
Fakulti Agroteknologi dan Sains Makanan
Kolej Universiti Sains dan Teknologi Malaysia
21030 Kuala Terengganu.
Cop Rasmi

Tarikh: 24.3.05

.....

Ketua Jabatan Sains Samudera
Nama: DR. AHMAD SHAMSUDDIN B. AHMAD
Ketua
Jabatan Sains Samudera
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
21030 Kuala Terengganu
Cop Rasmi:

Tarikh: 24/3/05

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μm	micron meter
sp.	species
α	alpha
β	beta
γ	gamma
PC	paper chromatography
glc	glucose
H_2O_2	hydrogen peroxide
$AgNO_3$	argentum nitrate

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ABSTRACT

This investigation was performed to isolate and to identify the sugar compositions of polysaccharides from marine bacteria isolate from marine sponge, *Haliclona* sp. which was collected from Bidong's Island. Six marine bacteria were isolated *Oligella urethalis*, *Pantoea agglomerans,* and two bacteria from genus *Enterobacter; Enterobacter sakazaki and Enterobacter intermedium* and two bacteria from genus *Citrobacter; Citrobacter freundii and Citrobacter koseri*. All bacteria isolated were bacteria gram negative and successfully produce polysaccharides. Sugar compositions in polysaccharides were identified using paper chromatography method. The sugar compositions determined in the polysaccharides were mannose, glucose, raffinose, xylose, arabinose and rhamnose.

PEMENCILAN BACTERIA DAN PENENTUAN POLISAKARIDA DARIPADA SPAN *Haliclona* sp.

ABSTRAK

Kajian ini dijalankan untuk memencilkan dan mengenalpasti sebatian komposisi gula yang terkandung di dalam polisakarida dari bakteria marin yang dipencilkan dari span *Haliclona* sp. yang diambil dari Pulau Bidong. Enam bakteria berjaya dipencilkan, *Oligella urethalis*, *Pantoea agglomerans*, dua bakteria daripada genus *Enterobacter*; *Enterobacter sakazaki* dan *Enterobacter intermedium* dan dua bakteria daripada genus *Citrobacter*; *Citrobacter freundii* dan *Citrobacter koseri*. Kesemua bakteria ini adalah bakteria gram negatif dan berupaya menghasilkan polisakarida. Komposisi gula yang terkandung di dalam polisakarida dikenal pasti menggunakan kaedah kertas kromatografi. Komposisi gula yang ditemui di dalam polisakarida daripada bakteria ini adalah terdiri daripada mannosa, glukosa, raffinosa, xylosa, arrabinosa dan rhamnosa.