

ISOLATION AND IDENTIFICATION OF
POLYSACCHARIDES PRODUCING BACTERIUM
ASSOCIATED WITH SWEETED *Padiam* sp.

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PERPUSTAKAAN KUSTEM

ISOLATION AND IDENTIFICATION OF POLYSACCHARIDES
PRODUCING BACTERIUM ASSOCIATED WITH SEAWEED,
Padina sp.

By:

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**JABATAN SAINS SAMUDERA
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PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

Isolation and Identification of Polysaccharides Bacterium Associated with Seaweed, *Padina* sp. oleh Nurul 'Aininnabilah Bt. Ab. Hamid, UK 6910 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.

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LIST OF ABBREVIATIONS AND SYMBOLS

α	alpha
β	beta
γ	gamma
l	liter
g	gram
ml	millimeters
rpm	rote per minutes
NaCl	natrium clorida
HCl	hydrochloride acid
Glc	glucose
Gal	galactose

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ABSTRACT

The seaweed, *Padina* sp. samples were taken from Bidong Island were used in this study. Four bacteria were isolated from this species. Bacterial morphology, biochemical test characteristics and Remel Identification Kit were used to identify the bacteria. Paper Chromatography (PC) was used to identify the sugar component of the polysaccharides. The present bacterium isolated from marine seaweed, *Padina* sp were identified as *Brevundimonas diminuta*, *Moraxella osloensis*, *Peptostreptococcus prevotii* and *Alcaligenes faecalis*. There were 10 standards that used to identify sugar component of polysaccharides produced by these bacteria. The results showed that all these bacterium associated with *Padina* sp. can produce their polysaccharides which most of them contained the simple sugar like glucose, raffinose, galactose, mannose, rhamnose and arabinose.

TAJUK: PEMENCILAN BAKTERIA DAN PENENTUAN POLISAKARIDA DARI
SPESIES RUMPAI LAUT (*Padina* Sp.)

ABSTRAK

Rumpai laut, *Padina* sp telah diambil di Pulau Bidong dan digunakan sebagai sampel bagi kajian ini. Dari sampel ini, empat bakteria telah dipencilkan. Morfologi bakteria, ciri-ciri ujian kimia dan “Remel Identification Kits” telah digunakan untuk mengenalpasti bakteria ini. Kertas Kromatografi digunakan bagi menentukan komponen gula pada polisakarida. Bakteria yang terdapat pada rumpai laut, *Padina* sp yang telah dipencilkan telah dikenalpasti sebagai '*Brevundimonas diminuta*, *Morexella osloensis*, *Peptostreptococcus prevotii* dan *Alcaligenes faecalis*. Terdapat 10 standard yang telah digunakan bagi mengenalpasti komponen gula yang terdapat pada polisakarida yang dihasilkan oleh bakteria ini. Hasil keputusan didapati semua bakteria yang terdapat pada *Padina* sp. ini boleh menghasilkan polisakaridanya dimana kebanyakannya mengandungi gula ringkas seperti glucose, raffinose, galactose, mannose, rhamnose and arabinose.