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FACULTY OF SCIENCE AND TECHNOLOGY
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

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Lihat sebelah

ANALYSIS OF EXOPOLYSACCHARIDE ISOLATED FROM MARINE BACTERIUM ASSOCIATED WITH MARINE SPONGES, *Theonella* sp.

By
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Research report submitted in partial fulfillment of
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: Analysis of Exopolysaccharide Isolated from Marine Bacterium Associated with Marine Sponges, *Theonella* sp. oleh Salbiah bt.Ab.Manaf No.Matrik UK 8359 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 Malaysia, Kolej Universiti Sains dan Teknologi Malaysia.

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LIST OF ABBREVIATION AND SYMBOLS

ml	millimeter
g	gram
Glc	glucose
TFA	trifluoroacetic acid
NaCl	Natrium Chloride
S.t.d	Standard
S	Sample

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ANALYSIS OF EXOPOLYSACCHARIDE ISOLATED FROM MARINE BACTERIUM ASSOCIATED WITH MARINE SPONGES, *Theonella* sp.

Abstract

A bacterium producing polysaccharides associated with marine sponges, *Theonella* sp. collected in Bidong's island, Terengganu has been isolated and identified. The identification of bacteria was done by using the biochemical test Remel Identification Kit. The bacteria were identified as *Alcaligene faecalis*. Crude and acidic polysaccharides were hydrolyzed by using 2 M Trifluoroacetic (TFA). Paper Chromatography method was performed to determine the sugars component in the polysaccharide-producing bacterium. Ten standards of sugar monomers have been used. The results showed that sample polysaccharides hydrolyzed by 2 M TFA contain 4 sugars which were raffinose, glucose, mannose, and unknown compound. The polysaccharides also were analyzed with the High Performance Liquid Chromatography (HPLC) to determine neutral sugars.

ANALISIS EXOPOLISAKARIDA YANG DIPENCIL DARIPADA BAKTERIA MARIN YANG ADA HUBUNGAN DENGAN SPAN MARIN, *Theonella* sp.

ABSTRAK

Bakteria dari span marin, *Theonella* sp. dari pulau bidong, Terengganu yang menghasilkan polisakarida telah dipencilkan dan dikenalpasti. Bakteria yang telah dianalisa melalui teknik Remel Identification Kit dikenalpasti sebagai *Alcaligene faecalis*. Polisakarida mentah dan polisakarida asidik dihidrolosis dengan 2 Molar Trifluoroacetic (TFA). Seterusnya, kaedah kertas kromatogarfi dilakukan untuk menentukan komponen gula bakteria penghasil polisakarida. Sepuluh standard gula monomer digunakan untuk TFA. Bagi HCL keputusan menunjukkan 4 gula dikesan iaitu raffinose ,glucose, mannose, dan satu komponen gula tidak dapat dikenalpasti. Analisis polisakarida dilakukan dengan kaedah High Performance Liquid Chromatography (HPLC) untuk menentukan gula neutral.