

ภาคผนวก

ก. การเผยแพร่ผลงานทางวิชาการจากโครงการวิจัยนี้

ก.๑ การตีพิมพ์ในวารสารทางวิชาการระดับนานาชาติที่มี *peer review* (impact factor 3.471)

Khoushab, F., Yamabhai, M., (2010) Chitin Research Revisited. *Marine Drugs* 8, 1988-2012.

ก.๒ การนำเสนอผลงานในการประชุมวิชาการระดับนานาชาติ

Pisngam P, Yamabhai M: Serendipitous identification of *B. subtilis* MY1 with antifungal activity (poster). In: The 22nd Annual Meeting of the Thai Society for Biotechnology "International Conference on Biotechnology for Healthy Living". Prince of Songkla University, Trang Campus, Thailand, October 20-22, 2010; 2010.

Yamabhai, M., Pesatcha, P., and Suginta W. (2008). Expression and characterization of endo-chitinase from *Bacillus licheniformis*. In the 12th Asia Pacific confederation of Chemical Engineering Congress (APCChE 2008): Biotechnology. 4-6 August 2008, Dalian, China

ข. ผลการวิเคราะห์เอกลักษณ์ของเชื้อที่คัดหามาด้วยวิธีการทางชีวเคมี (๓ หน้า)

Request No. 2553 / 062 (E: 2010 / 062)

At Bangkok MIRCEN

REPORT ON TESTING AND ANALYSIS
FOR

Suranaree University of technology

Testing / Analysis of Identification of microorganisms
 Method of testing / analysis Standard method of API Identification
 Condition of testing / analysis: Temperature 37 °C
 Date of testing / analysis 10 February 2010
 Result of testing / analysis

Identification result as show below:

KP 1*: *Bacillus subtilis/amyloliquefaciens*

(Please see attached documents)

Remark: *Test sample was the fresh culture

Tested / analyzed by

Ms. Pirawan Srisin

Examined by

(Ms. Susakul Palakawong Na Ayudthaya)

Approved by

(Mr. Suparn Arjanyasripong)

Director of BioScience Department

Date 3 March 2010

The above results are valid exclusively for tests or analyzed samples as mentioned in this report. Changed data in this report is illegal.

Publish or advertisement of the results on testing or analysis is prohibited unless written permission from the Governor of TISTR.

Analytical ResultsTable 1. Characteristics of the bacterial strain KP 1: *Bacillus subtilis/amyoliquefaciens*

Characteristics	Reaction
Gram reaction	+ve
Fermentative production of acid from:	
Glycerol	-
Erythritol	-
D-arabinose	-
L-arabinose	+
D-ribose	+
D-xylose	+
L-xylose	-
D-adonitol	-
Methyl-βD-xylopyranoside	-
D-galactose	-
D-glucose	+
D-fructose	+
D-mannose	+
L-sorbose	-
L-rhamnose	-
Dulcitol	-
Inositol	-
D-mannitol	++
D-sorbitol	+
Methyl-αD-mannopyranoside	-
Methyl-αD-glucopyranoside	+
N-acetylglucosamine	+
Amygdaline	+
Arbutine	+

Remark : +ve = Gram positive bacteria
+ = Positive reaction
- = Negative reaction

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Analytical ResultsTable 1. (continued) Characteristics of the bacterial strain KP 1: *Bacillus subtilis/amyloliquefaciens*

Characteristics	Reaction
Fermentative production of acid from: (continued)	
Esculine ferric citrate	+
Salicine	+
D-cellobiose	+
D-maltose	+
D-lactose (bovine origin)	-
D-melibiose	-
D-saccharose (sucrose)	+
D-trehalose	+
Inuline	+
D-melezitose	-
D-raffinose	+
Amidon (starch)	+
Glycogen	+
Xylitol	-
Gentiobiose	+
D-turanose	-
D-lyxose	-
D-tagatose	-
D-fucose	-
L-fucose	-
D-arabitol	-
L-arabitol	-
Potassium gluconate	-
Potassium 2-ketogluconate	-
Potassium 5-ketogluconate	-

Remark : + ve = Gram positive bacteria
 + = Positive reaction
 - = Negative reaction

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