

Fungal Biotechnology Laboratory

ÊéÍ§»®ÔºÑµÔ;ÒÃà·¤â¹âÅÅÖºÖÇÀÒ¾'éÒ¹ÅÒ

(Fungal Biotechnology Laboratory)

»ÃœÇÑµÔ

EEÍS»-ÔºÑµÔ;ÔÁà·¤â¹âÅÔºÔÇÀÔ%«ÉÔ¹ÅÒ à 'ÉÁØëÙà¹éÈÖ;ÉÔ;ÔÄäáé» ÄÐåÅ¹¹'Ô;ÔÅÔ¹·ÅÔÄï¹;ÅØèÅÅÔÊµiaÅÐÅÒ·ÔëA compound) à 'éá;je ÈÔÅä¹;ÅØèÅ polyketides non-ribosomal peptides ÅÅÐ;ÅäçÁN¹"Ôà»ç¹ä¹;ÅØèÅäíàÅ;éÒ 3 åÅÐ 6 å 'ÁÍØENÄE (Systems Biology) «ÖëÙà»ç¹;ÔÄ·ÔÙÔ¹ÅèÇÁ;N¹ÅÐEÇèÔÙÍÔ"ÔÅÄíàÅÐ;N¹ÇÔ"ÑÅ·ÔëÅÔ¤ÇOÅäºÔëÅÇºÔ-¹ÈÔ¤ÔµèÔÙä·ÑëÙà å%çxéå%ÔëÅÔ¤ÇOÅäºÔÅÄíà¹;ÔÙÅçëÙçN¹çÙ» ÄÐà·E 'ÉÔ¹å·¤â¹âÅÔºÔÇÀÔ%åÅÐµ¹Ô¹È¹ÙçÇOÅµéÙ;ÔÄçÙÍÅÓÅÍµÈÔ;E;Å

ÇÑµ¶Ø»ÃÐÊ§¤ì

à³¾xéí¾Ñ²¹ÒÃÒáÅÐÂÖùìà»ç¹à«ÅÄìà"éÒºéÒ¹ä¹;ÒÃÊÑ§à¤ÃÒÐËì Heterologous protein, Unnatural áÅÐ Natural product

¶èÒÂ.Í·à.¤â¹åÅÔ;ÒÃÊÑ§à¤ÃÒÐËíÈÒÃÍ¡Ä. Ôí¤ÖÇÀÒ%¢í§ÃÒºÒ;ËéÍ§»-ÔºÑµÔ;ÒÃÊÙèÀÒ¤íØµÈÒË;ÃÃÁ.Õèà;ÕèÅÇ¢éÍ§

§Ò¹ÇÔ·ÑÂ·Óè·Óà¹Ô¹;ÒÃ

1. Microbial fatty acid and lipid metabolisms

|ÒÄÈÖ|ÉÒ|ÒÃ¤Cº¤ØÁ|ÒÄÊÑ¤à¤ÅÒÐË|i|Ã'äcÁÑ¹¤¹ÅÒ M. rouxii ÅÒÄãué|ÒÃ¤|ÅÖèÅ¹á|Å§|Ñ'''ÑÄ.Ò§|ÒÄÀÒ¾µèÒ§æ

¡ÒÃÈÖ;ÉÒ¤ÇÒÁÊÑÁ¾Ñ¹,¡ÃÐËÇèÒ§â¤Ã§ÊÃéÒ§áÅÐË¹éÒ·Óè¤Í§á¹ä«Áì fatty acid desaturase áÅÐ elongases ¤Í§ÃÒ M. rouxii

¡ÒÃ·Ó;ÅÒÅ¾Ñ¹,ØiÃÒ M. rouxii à¾¤xéí»ÃÐâÅ¹µéí;¡ÒÃÈÖ;ÉÒ;ÒÃ¤Ç¤ØÁ;¡ÒÃÊÑ§à¤ÃÒÐË¹;¡Ã'¤¢ÁÑ¹áÅÐÅÔ»Ó'ã¹ÃÒ M. rouxii

¡ÒÃ¾Ñ²¹ÒÃÐºº;¡ÒÃÊ¤§¶èÒÅÂÃ¹ (transformation) á¹ÃÒ M. rouxii

¡ÒÃ¾Ñ²¹Ò;¡ÒÃà¾ÒÐàÅÕéÃ§ÃÒ M. rouxii à¾¤xéí¼ÅÔµ;Ã'á;ÁÁèÒÅÔâ¹àÅ¹Ô¤

¡ÒÃÈÖ;ÉÒ;ÒÃ¤Ç¤ØÁ;¡ÒÃÊÑ§à¤ÃÒÐË¹;¡Ã'¤¢ÁÑ¹áÅÐÅÔ»Ó'ã¹ÃÕÉµ; Hansenula polymorpha

2. Bioactive compounds

¡ÒÃÈÖ;ÉÒË¹éÒ·Óè¤Í§Ã¹·Óè¤;¡ÒÃ¤Ç¤éÍ§;Ñº;¡ÒÃÊÑ§à¤ÃÒÐË¹¤Í§ÈÒÅÅÙ;¹/¼ÊÁ PKS/NRPS á¹ÃÒ Xylaria sp. BCC1067

¡ÒÃ¤é¹ËÒÅÃ¹·Óè¤¤éÊÑ§à¤ÃÒÐË¹ËÒÅµéÒ¹ÅÐàÃç§"Ò;¡ÃÒ Xylaria sp. á'ÁÌÒÈÑÅà¤¹Ô¤.Ò§Í³Ù¤ÓÇÇÔ·ÅÒáÅÐ¤ÓÇÊÒÃ È¹¤.È¹¤

¡ÒÃ¤é¹ËÒÅÃ¹·ÓèÅÖÈÑ;¡À¤¾¤¹;¡ÒÃÊÑ§à¤ÃÒÐË¹ËÒÅÅ·ÅÐ'Ñ¤ÅÍàÅÊµÍÅÍÅ¤¹àÅ¤Í'¤¹;ÅØ¤Á polyketide "Ò;¡Ã¤¹ÅØ¤Á Xylaria sp.

¡ÒÃÈÖ;ÉÒ;¡ÒÃ¤É¤§ÍÍ;¡¤Í§Ã¹¤ÅÐ;¡ÒÃ¾Ñ²¹Ò;¡ÒÃ¼ÅÔµÉÒÅ¤¹;ÅØ¤Á polyketide "Ò;¡ÃÒ Xylaria sp . á¹ÃÕÉµ; Hansenula polymorpha

¡ÒÃÈÖ¡ÉÒ¡ÒÃáÊ`§Í¡çÍ§ÃÖ¹áÅÐ¡ÒÃ¾Ñ²¹Ò¡ÒÃ¼ÅÔµÊÒÃã¹¡ÅØèÁ PKS/NRPS "Ò¡ÃÒ Xylaria sp . á¹ÃÒ Aspergillus

ºØ¤¤ÅÒ¡Ã

- ÁÈ. 'Ã. ÊØÀÒÀÃ³¡ ¸ÖÇÐ, ¸ÃÑ¡É¡
- 'Ã. ¡Íº¡ØÅ àËÅèÒà·é§
- 'Ã. ÈÑ¹É¹ÃÑ¡É³¡ ÃÑª®ÒÇ§È¡
- 'ÒÃÍ¹ØÇÑ²¹¡ àµªÐÄ·, Ô¡
- 'Ò§³ÅÅ ÇÃ»ÃÖ'Ò
- 'É. "ÒÃ¹Ñ¹·¡ ¡ÅèÍÁ¹ÃÒ
- 'É. ÊÁ¾ÔÈ "Ôµµì«xèí
- 'É. ÊØÀÒ¾Ã Ç§È¡ÉÒÅÒ
- 'Ò§ÇÑ²¹Ò à"ÒÂÁµ¹

¤ÇÒÁÃèÇÁÁxíÃÐ'Ñº¹Ò¹ªÒµÔ

- Institute of Food Research, Norwich Research Park , UK .
- Department of Biology, Institute for Experimental Pathology, University of Iceland, Iceland
- Biochemie/Fachbereich Chemie, Philipps University of Marburg, Germany
- School of Biosciences , University of Westminster , UK
- Center of Microbial Biotechnology ,Technical University of Denmark , Denmark
- University of Salerno, Italy

¤ÇÒÁÃèÇÁÁxíÃÐ'ÑººÒµÔ

- ¤ÇÒÁÃèÇÁÁxí¹§Ò¹ÇÔ"ÑÂ'éÒ¹ Microbial lipid metabolism ¡ÑºËéÍ§»"ÔºÑµÔ¡ÒÃ Microbial Fermentation, System biology and ÅÐ Bioprocess development
- ¤ÇÒÁÃèÇÁÁxí¹¡ÒÃ·ÓÇÔ"ÑÂã¹¡ÒÃ¹Ó¡Ã'á¡ÁÁèÒÅÔâ¹àÅ¹Ô¡ä»ã¤éà»ç¹ËÑÇ¼ÊÁã¹¡ÒËÒÃàÅÔéÅ§ÊÑµÇ¡ ¡ÑºÁËÒÇÔ·ÅÒÅÑ
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¤ÇÒÁÃèÇÁÁxí·Ò§ÇÔºÒ¡ÒÃ·Ò§'éÒ¹à·¤¹Ô¤áÅÐà·¤¹âÅÅÖ'éÒ¹ÅÖ¹ÃèÇÁ¡ÑºËéÍ§»·ÒºÑµÔ;ÒÃÇÔºÑÂ'éÒ¹à·¤¹âÅÅÖ;ÒÃ³%ÒÐáé»ÅÐâÅº¹·Ò¡çÍ§àÈÓÀæÅxíáºÒ¡ÍØµÈÓË;ÃÃÁ

- ¤ÇÒÁÃèÇÁÁxí¹§Ò¹ÇÔºÑÂ'ÑºÈÙ¹ÃìaºÒeÅÇºÒ·àC%ÒÐ·Ò§'éÒ¹à·¤¹âÅÅÖºÒÇÀº%·Ò§·ÐàÅ·¤³ÐÇÔ·ÅÒÈÒÊµÃ "ÒÌÒÅ§;Ãº¹;ÒÃ³%Ñ¹ÒÍÒÃ³%èÍáºÑ¹·Ò¡çØé§·ÐàÅÈÙµÃ·Ã'äçÁÑ¹äÅèÍÒeÅµÑÇÉÙ§àºÒ³ºÅ·Ã

- ¤ÇÒÁÃèÇÁÁxí¹§Ò¹ÇÔºÑÂ'éÒ¹¡ÒÃÈÒ¡ÉÒ·Ò§'ºÙ%Ñ¹·ÒÈÒÊµÃ;ÒÃÈÑ§àºÃÒÐË;¡Ã'äçÁÑ¹äÅðäçÁÑ¹äÅÖºµì Hansenul

¼Å§Ò¹à¹¼Åá%Ãèä¹ÇÒÃÈÒÃÄÐ'Ñº¹Ò¹ÒºÒµÔ

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- Nucleotide and amino acid sequence of D 12 -desaturase of *Mucor rouxii* ATCC24905, Thai Patent (Filed: June 1999), Thai Patent
- Nucleotide and amino acid sequences of D 6 -desaturase gene of *Mucor rouxii* ATCC24905, Thai Patent (Filed: September, 2000), Thai Patent
- Nucleotide and amino acid sequences of D 6 -desaturase isoform II of *Mucor rouxii* ATCC 24905, (Filed: January, (2004), Thai Patent
- Development of D 6 -desaturase isoform II enzyme of *Mucor rouxii* involved in synthesis of essential fatty acids, gamma-linolenic and stearidonic acids by site-directed mutagenesis, Thai Patent

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ÊéÍ§»-ÔºÑµÔ¡ÒÃà·¤â¹âÅÅÖªÖÇÀÒ³¼'éÒ¹ÃÒ
 Ê¶ÒºÑ¹¾Ñ²¹ÒáÅÐ½Ò¡íºÅÅâÃ§§Ò¹µé¹áºº
 ÁÆÒÇÔ·ÀÒÅÑÂà·¤â¹âÅÅÖ¾ÃÐ"ÍÀà¡ÅéÒ,¹ºØÃÖ
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