Fungal Biotechnology Laboratory

ËéÍ§»®ÔºÑµÔ¡ÒÃà·¤â¹âÅÂÕªÕÇÀÒ¾´éÒ¹ÃÒ

(Fungal Biotechnology Laboratory)

»ÃÐÇÑµÔ

ËéÍ§»¯ÔºÑµÔ¡ÒÃà·¤â¹âÅÂÕªÕÇÀÒ¾´éÒ¹ÃÒ ä´éÁØè§à¹é¹ÈÖ¡ÉÒ¡ÒÃãªé»ÃÐâÂª¹ì¨Ò¡¨ØÅÔ¹·ÃÕÂìã¹¡ÅØèÁÂÕÊµìáÅÐÃÒ·Õè
compound) ä´éá¡è ÊÒÃã¹¡ÅØèÁ polyketides non-ribosomal peptides áÅÐ¡Ã´ä¢ÁÑ¹¨Óà»ç¹ã¹¡ÅØèÁâÍàÁ¡éÒ 3 áÅÐ 6 â´ÂÍÒÈÑÂÈ
(Systems Biology) «Öè§à»ç¹¡ÒÃ·Ó§Ò¹ÃèÇÁ¡Ñ¹ÃÐËÇèÒ§ÍÒ¨ÒÃÂìáÅÐ¹Ñ¡ÇÔ¨ÑÂ·ÕèÁÕ¤ÇÒÁàªÕèÂÇªÒ-ã¹ÊÒ¢ÒµèÒ§æ·Ñé§â
à¾×èÍà¾ÔèÁ¢Õ´¤ÇÒÁÊÒÁÒÃ¶ã¹¡ÒÃá¢è§¢Ñ¹¢Í§»ÃÐà·È´éÒ¹à·¤â¹âÅÂÕªÕÇÀÒ¾áÅÐµÍºÊ¹Í§¤ÇÒÁéÍ§¡ÒÃ¢Í§ÀÒ¤ÍØµÊÒË¡Ã

ÇÑµ¶Ø»ÃÐÊ§¤ì

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à¾×èÍÈÖ¡ÉÒ¡ÃÐºÇ¹¡ÒÃ¡ÒÃÊÑ§à¤ÃÒÐËìÊÒÃÍí¡Ä·¸Ôì·Ò§ªÕÇÀÒ¾¨Ò¡ÃÒ ä´éá¡èÊÒÃã¹¡ÅØèÁ microbial oils , polyketide áÅÐ
â´ÂÍÒÈÑÂà·¤â¹âÅÂÕ·Ò§´éÒ¹Í³ÙªÕÇÇÔ·ÂÒªÑé¹ÊÙ§ àªè¹ Systems biology, Bioinformatics, Metabolic engineering áÅÐ Combina
à¾×èÍ»ÃÑº»ÃØ§ÊÒÂ¾Ñ¹¸ØìáÅÐ¡ÒÃ¼ÅÔµÊÒÃ·ÕèÁÕ»ÃÐâÂª¹ì ·Ò§´éÒ¹à·¤â¹âÅÂÕªÕÇÀÒ¾ â´Â¨ØÅÔ¹·ÃÕÂì·Õè¹ÓÁÒ·Ó¡ÒÃ
áÅÐÂÕÊµì Saccharomyces cereiviae , Hansenula polymorpha

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à¾×èÍ¾Ñ²¹ÒÃÒáÅÐÂÕÊµìà»ç¹à«ÅÅìà¨éÒºéÒ¹ã¹¡ÒÃÊÑ§à¤ÃÒÐËì Heterologous protein, Unnatural áÅÐ Natural product

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¶èÒÂ·Í´à·¤â¹âÅÂÕ¡ÒÃÊÑ§à¤ÃÒÐËìÊÒÃÍí¡Ä·¸ÔìªÕÇÀÒ¾¢Í§ÃÒ¨Ò¡ËéÍ§»¯ÔºÑµÔ¡ÒÃÊÙèÀÒ¤ÍØµÊÒË¡ÃÃÁ·Õèà¡ÕèÂÇ¢éÍ§

§Ò¹ÇÔ¨ÑÂ·Õè´Óà¹Ô¹¡ÒÃ

1. Microbial fatty acid and lipid metabolisms

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¡ÒÃÈÖ¡ÉÒ¡ÒÃ¤Çº¤ØÁ¡ÒÃÊÑ§à¤ÃÒÐËì¡Ã´ä¢ÁÑ¹ã¹ÃÒ M. rouxii ÀÒÂãµé¡ÒÃà»ÅÕèÂ¹á»Å§»Ñ¨¨ÑÂ·Ò§¡ÒÀÒ¾µèÒ§æ

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¡ÒÃÈÖ¡ÉÒ¤ÇÒÁÊÑÁ¾Ñ¹¸ìÃÐËÇèÒ§â¤Ã§ÊÃéÒ§áÅÐË¹éÒ·Õè¢Í§àÍ¹ä«Áì fatty acid desaturase áÅÐ elongases ¢Í§ÃÒ M. rou

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¡ÒÃ·Ó¡ÅÒÂ¾Ñ¹¸ØìÃÒ M. rouxii à¾×èÍ»ÃÐâÂª¹ìµèÍ¡ÒÃÈÖ¡ÉÒ¡ÒÃ¤Çº¤ØÁ¡ÒÃÊÑ§à¤ÃÒÐËì¡Ã´ä¢ÁÑ¹áÅÐÅÔ»Ô´ã¹ÃÒ M. rou

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¡ÒÃ¾Ñ²¹ÒÃÐºº¡ÒÃÊè§¶èÒÂÂÕ¹ (transformation) ã¹ÃÒ M. rouxii

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¡ÒÃ¾Ñ²¹Ò¡ÒÃà¾ÒÐàÅÕéÂ§ÃÒ M. rouxii à¾×èÍ¼ÅÔµ¡Ã´á¡ÁÁèÒÅÔâ¹àÅ¹Ô¤

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¡ÒÃÈÖ¡ÉÒ¡ÒÃ¤Çº¤ØÁ¡ÒÃÊÑ§à¤ÃÒÐËì¡Ã´ä¢ÁÑ¹áÅÐÅÔ»Ô´ã¹ÂÕÊµì Hansenula polymorpha

2. Bioactive compounds

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¡ÒÃÈÖ¡ÉÒË¹éÒ·Õè¢Í§ÂÕ¹·Õèà¡ÕèÂÇ¢éÍ§¡Ñº¡ÒÃÊÑ§à¤ÃÒÐËì¢Í§ÊÒÃÅÙ¡¼ÊÁ PKS/NRPS ã¹ÃÒ Xylaria sp. BCC1067

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¡ÒÃ¤é¹ËÒÂÕ¹·Õèãªéʧà¤ÃÒÐËìÊÒÃµéÒ¹ÁÐàÃç§¨Ò¡ÃÒ Xylaria sp. â´ÂÍÒÈÑÂà·¤¹Ô¤·Ò§Í³ÙªÕÇÇÔ·ÂÒáÅÐªÕÇÊÒÃ Ê¹à·

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¡ÒÃ¤é¹ËÒÂÕ¹·ÕèÁÕÈÑ¡ÂÀÒ¾ã¹¡ÒÃÊÑ§à¤ÃÒÐËìÊÒÃÅ´ÃÐ´Ñº¤ÅÍàÅÊàµÍÃÍÅã¹àÅ×Í´ã¹¡ÅØèÁ polyketide ¨Ò¡ÃÒã¹¡ÅØèÁ Xyl

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¡ÒÃÈÖ¡ÉÒ¡ÒÃáÊ´§ÍÍ¡¢Í§ÂÕ¹áÅÐ¡ÒÃ¾Ñ²¹Ò¡ÒÃ¼ÅÔµÊÒÃã¹¡ÅØèÁ polyketide ¨Ò¡ÃÒ Xylaria sp . ã¹ÂÕÊµì

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¡ÒÃÈÖ¡ÉÒ¡ÒÃáÊ´§ÍÍ¡¢Í§ÂÕ¹áÅÐ¡ÒÃ¾Ñ²Ò¡ÒÃ¼ÅÔµÊÒÃã¹¡ÅØèÁ PKS/NRPS ¨Ò¡ÃÒ Xylaria sp . ã¹ÃÒ Aspergillus

ºØ¤¤ÅÒ¡Ã

- ÃÈ.´Ã. ÊØÀÒÀÃ³ì ªÕÇÐ¸¹ÃÑ¡Éì

- ´Ã. ¡Íº¡ØÅ àËÅèÒà·é§

- ´Ã. ÈÑ¹Ê¹ÅÑ¡É³ì ÃÑª®ÒÇ§Èì

- ¹ÒÂÍ¹ØÇÑ²¹ì àµªÐÄ·¸Ôì

- ¹Ò§³ÁÅ ÇÃ»ÃÕ´Ò

- ¹.Ê. ¨ÕÃ¹Ñ¹·ì ¡ÅèÍÁ¹ÃÒ

- ¹.Ê. ÊÁ¾ÔÈ ¨Ôµµì«×èÍ

- ¹.Ê. ÊØÀÒ¾Ã Ç§ÈìÊÒÅÕ

- ¹Ò§ÇÑ²¹Ò à¨ÕÂÁµ¹

¤ÇÒÁÃèÇÁÁ×ÍÃÐ´Ñº¹Ò¹ªÒµÔ

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- Center of Microbial Biotechnology ,Technical University of Denmark , Denmark

- University of Salerno, Italy

¤ÇÒÁÃèÇÁÁ×ÍÃÐ´ÑºªÒµÔ

- ¤ÇÒÁÃèÇÁÁ×Íã¹§Ò¹ÇÔ¨ÑÂ´éÒ¹ Microbial lipid metabolism ¡ÑºËéÍ§»¯ÔºÑµÔ¡ÒÃ Microbial Fermentation, System biology and
áÅÐ Bioprocess development

- ¤ÇÒÁÃèÇÁÁ×Íã¹¡ÒÃ·ÓÇÔ¨ÑÂã¹¡ÒÃ¹Ó¡Ã´á¡ÁÁèÒÅÔâ¹àÅ¹Ô¡ä»ãªéà»ç¹ËÑÇ¼ÊÁã¹ÍÒËÒÃàÅÕéÂ§ÊÑµÇì ¡ÑºÁËÒÇÔ·ÂÒÅÑÁ

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¤ÇÒÁÃèÇÁÁ×Í·Ò§ÇÔªÒ¡ÒÃ·Ò§´éÒ¹à·¤¹Ô¤áÅÐà·¤â¹âÅÂÕ´éÒ¹ÂÕ¹ÃèÇÁ¡ÑºËéÍ§»¯ÔºÑµÔ¡ÒÃÇÔ¨ÑÂ´éÒ¹à·¤â¹âÅÂÕ¡ÒÃ¾ÒÐ
é»ÃÐâÂª¹ì¨Ò¡Í§àÊÕÂàËÅ×Íãªé¨Ò¡ÍØµÊÒË¡ÃÃÁ

- ¤ÇÒÁÃèÇÁÁ×Íã¹§Ò¹ÇÔ¨ÑÂ ¡ÑºÈÙ¹Âìàªõè ÂÇªÒ-à©¾ÒÐ·Ò§´éÒ¹à·¤â¹âÅÂÕªÕÇÀÒ¾·Ò§·ÐàÅ ¤³ÐÇÔ·ÂÒÈÒÊµÃì ¨ØÌÒÅ§¡Ã
ã¹¡ÒÃ¾Ñ²ÒÍÒËÒÃ¾èÍáÁè¾Ñ¹¸Ø¡ØØé§·ÐàÅÊÙµÃ¡Ã´ä¢ÁÑ¹äÁèÍÔèÁµÑÇÊÙ§àªÔ§¾Ò³ÔªÂì

- ¤ÇÒÁÃèÇÁÁ×Íã¹§Ò¹ÇÔ¨ÑÂ´éÒ¹¡ÒÃÈÖ¡ÉÒ·Ò§Í³Ù¾Ñ¹¸ØÈÒÊµÃì¢Í§¡ÒÃÊÑ§à¤ÃÒÐËì¡Ã´ä¢ÁÑ¹áÅÐä¢ÁÑ¹ã¹ÂÕÊµì Hansenul

¼Å§Ò¹à¼ÂÁá¾ÃèÃ¹ÇÒÃÊÒÃÃÐ´Ñº¹Ò¹ÒªÒµÔ

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ÊÔ·¸ÔºÑµÃ (Patents)

- 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

·ÕèÍÂÙèáÅÐµÔ´µèÍÊÍº¶ÒÁ

ËéÍ§»¯ÔºÑµÔ¡ÒÃà·¤â¹âÅÂÃÕªÕÇÀÒ¾´éÒ¹ÃÒ

Ê¶ÒºÑ¹¾Ñ²¹ÒáÅÐ½Ö¡ÍºÃÁâÃ§§Ò¹µé¹áºº

ÁËÒÇÔ·ÂÒÅÑÂà·¤â¹âÅÂÃÕ¾ÃÐ¨ÍÁà¡ÅéÒ¸¹ØÃÕ

83 ËÁÙè 8 á¢Ç§·èÒ¢éÒÁ à¢µºÒ§¢Ø¹à·ÕÂ¹ ¡·Á. 10150

â·ÃÈÑ¾·ì : 02-470-7503 â·ÃÊÒÃ : 02-452-3455