

# Animal Cell Culture and Microbial Bioprocess Development

αϞÒÁà»Ϟ¹ÁÒ

ÈéÍ§»Ô°ÑμÔ;ÒÃ Animal Cell Culture ÁÕ·Ø´àÃÒèÁμé¹·Ò; ;ÒÃÈÒ;ÉÒà¼ÒÐàÃÒéÁ§à«ÁÁíáÁÁ§ áÁÐ á°μϞÔϞáÁäÇÃÑÈ à¼×é  
à»ÃμÕ¹·Ñ´á»Á§·Ò; ;ÃÐ°Ϟ¹;ÒÃ¼Ñ¹ ØϞÔÈϞ;ÁÁÁá¼×éÍáéá¹·Ò§;ÒÁá¼·Áí »Ñ···ØÑ¹á´éϞ·ÁÒ·Áí°ϞèÒÁ§Ò¹á»¶Ò§ ;ÒÃ¼ÒÐàÃÒ  
submerge culture ÍÑ¹·Ð¹Òà»ÈÙè¼ÁÒμÁÑ³±; áÁÐ ;ÒÃϞ·ÁÒ·Áí·Ò´;ÒÃ¼ÁÒμà¼×éÍáéá¹·ÒμÈÒ;ÁÁÁ ·Ñé§μé¹·éÓáÁÐ»ÁÒÁ¹éÓ §Ò¹Ϟ  
à¼×éÍá´é¼ÁÒμÁÑ³±·Òè¹Òà»áéá´é··ÁÒ§ ·Ñé§·Ò§;ÒÁà;ÉμÁ áÁÐ »ÈØÈÑμϞ; ÁϞÁá»¶Ò§ ·Ò§ÍÒÈÒÁ áÁÐ ;ÒÃá¼·Áí á¹Í¹Òμ Á

ϞÑμ¶Ϟ»ÃÐÈ§μ

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¼Ñ²¹Ò;ÒÃ¼ÒÐàÃÒéÁ§à«ÁÁí áÁÐ·ØÁÒ¹·ÃÒÁíÍÁèÒ§ÁÒ»ÃÐÈÒ·ÒÁÒ¼ ááè¹

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;ÒÃμÔ´μÒÁ;ÒÃà»ÁÒèÁ¹á»Á§ÃÐÈϞèÒ§;ÒÃ passage à«ÁÁí

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;ÒÃÈÒÈÙμÁÍÒÈÒÁ·ÒèàÈÁÒÐÈÁ

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;ÒÃÈÒÈÒÁ·´á¹«ÒÃÑÁá¹ÍÒÈÒÁàÃÒéÁ§à«ÁÁíà¼×éÍÁ´μé¹·Ø¹

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;ÒÃÈÒ;ÉÒ;ÒÃà;ÒÐμÑϞÍ§à«ÁÁí°¹áÁáμÁáμÁÒáÍÁí

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¼Ñ²¹Ò;ÃÐ°Ϟ¹;ÒÃÈ;Ñ´ áÁÐ ·Ó°ÁÒÈØ·Ò;¼Á¼ÁÒμ·Ò;«ÁÁí áÁÐ·ØÁÒ¹·ÃÒÁí

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¼Ñ²¹Ò;ÒÃϞ·ÁÒ·Áí·Ò´;ÒÃ¼ÁÒμÈÙèÃÐ·Ñ°μé¹á°° áÁÐ ¶èÒÁ·Í·à·μá¹áÁÁÒ

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¼Ñ²¹Ò;ÃÐ°Ϟ¹;ÒÃ¼ÁÒμá¹μÒ°Í·Òé (Monoclonal Antibody áÁÐ IgY antibody)

à«ÁÁíáÁÐ·ØÁÔ¹·ÃÕÂì·ÕèÈÏ;ÉÒÇÔ·ÑÂ

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à«ÁÁíáÁÁ§ : Spodoptera flugiperda (SF9) , Spodoptera exigua (Se) , Heliotis zea (Hz)

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à«ÁÁíÈÑµÇìàÁÕéÁ§ÁÛì´éÇÁ¹Á : Hybridoma cell. CHO cell, MDCK

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á°µ·ÕàÃÕÂ : Bacillus subtilis , Lactic acid bacteria

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ÁÕÉµì : Sacchaormyces cerievisiae , Phaffia rodozyma

ìÁÐèÁµÁÒ´ áÁÐ ¼ÁÔµÁÑ³±ì à»éÒÉÁÒÂ

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àìÉµÃ :

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ÈÒÁìÓ·Ñ´áÁÁ§ÈÑµÁÛ¼×ç à»ç¹¼ÁÔìäÇÃÑÈ·ÕèÁÕµÇÒÁ´Óà¼ÒÐµéíáÁÁ§ÈÑµÁÛ¼×ª ÈÒÁÒÁ¶ãé©Õ´¼è¹ à¼×èíµÇ°µØÁ

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·ØÁÔ¹·ÃÕÂì à¼×èì;ÒÃ°ÓÑ´¹éÓàÈÕÂ áÁÐµÇ°µØÁà×éíÃÒã¹¹ÒçéÒÇ à»ç¹µé¹

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»ÈØÈÑµÇì :

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â»Ãä°áíµÔµ à»ç¹ à«ÁÁí·ØÁÔ¹·ÃÕÂì·ÕèÁÕªÒÇÔµ·ÕèàçéÒä»µÃí°µÃí§¼×é¹·Õèã¹·Ò§à´Ó¹ÒÈÒÃçí§ÈÑµÇì·Ó áÈéÁ´ÍÑµÁÒ;ì

Lactococcus acidophilus & Saccharomyces cerevisiae

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ÍÒËÒÃËÑµÇì áÁÐ ÊÒÃàÊÃÒÃã¹ÊÑµÇì ÍÒËÒÃËÑµÇì àªè¹ ÇéÒÇà¾´ÊÃÑ; ÊÓËÃÑºÇÑÇ¹Á ÊèÇ¹ÊÒÃàÊÃÒÃµ×í ÊÒÃÍÒËÒÃ.Ç  
«Òè§ÍÁÙèã¹ÁÙ».ÒèÊÑµÇìÊÒÃÒÃ¶¹Òã»ãªéã´éÍÃèÒ§ÃÇ´àÃÇÇ áÁÐ ¢èÇÁ;ÃÐµØé¹ ÁÙÁÒµØéÁ;Ñ¹ã¹ÊÑµÇì

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ÇÑµ«Ò¹ÊÑµÇì àªè¹ ÇÑµ«Ò¹»éÍ§;Ñ¹ã¹Ãµ á°ÁµàÁµã¹ ÇÑÇ

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ªØ´µÃÇ´ àªè¹ªØ´µÃÇ´µÇÒÁàµÃÒÃ´ã¹ÊÑµÇì;éÍ¹;ÒÃãËéÇÑµ«Ò¹ à¾×èÍà¾ÒèÁ»ÃÐËÒ.ÒÃÒ¾;ÒÃãËéÇÑµ«Ò¹

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ÍÒËÒÃ :

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ÊÒÃ»ÃØ§áµè§ÃË àªè¹;ÒÃ¼ÁÒµÊÒÃà¾ÒèÁÃËªÒµÒÍÙÁÒÃÒ´Ò;Ò;Ò;ÑèÇàËÃ×Í§

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ÊÒÃàÊÃÒÃ àªè¹;ÒÃ¼ÁÒµ àµÃàÃÒÃÁ à«àÁ¹ÒÃÁÃÒËµ; ÍÒÃÁÙã¹;ÁÍºÙÁÒ¹ã¹ªèé´§ ( IgY)

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ìÒÃá¾·Ãì :

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à»ÃµÒ¹.Ò§;ÒÃá¾·Ãì àªè¹ à»ÃµÒ¹ªèéàÃ×Í´Í; Erythropoietin

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ãÁã¹ãµÁ¹ÃÁÍ¹µÒÍ´Òé àªè¹ Anti-cortisal Mab., Anti-adipocyte membrane protein ( IgY)

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### ÇÑ«Õ¹ àªè¹ ÇÑ«Õ¹»éí§;Ñ¹âÃ«æøéËÇÑ´ãË-è ( Influenza)

°Ø««ÀÒ;Ã

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´Ã. à¾Ç-Ñ¹·Ãì àÁ!ÇÔ´´ÔµÃáÊ§

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Í. äÇÃØ´¹ì à´ªÁËÔ·;ØÁ

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ªÃÔÈÒ äªÃ¾Ñ²¹Ð¾Ä;Éì

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