

# 生物工程学报

## 2013年第29卷总目录

### 特邀综述

- 1:1 麻疹病毒受体与病毒侵入  
逯光文 高福 严景华
- 4:411 聚合级L-乳酸的非粮生物质发酵研究进展  
于波 曾艳 姜旭 王丽敏 马延和
- 7:871 絮凝基因内衔接重复序列与酵母菌絮凝特性多样性及遗传稳定性  
岳峰 郭雪娜 何秀萍 张博润
- 7:880 新型猪瘟疫苗研究进展  
王春花 孙元 仇华吉

### 综 述

- 1:10 功能化量子点在肿瘤诊治中的应用  
韩炎 夏天 李庆宁 郭俊明 陆佩蓓
- 2:131 微生物微纳米生物制造的前沿与展望  
石志军 史续典 孙臻 杨光
- 2:141 微生物发酵生产 $\alpha$ -酮戊二酸研究进展  
郭洪伟 堵国成 周景文 陈坚
- 2:153 紫杉醇诱导凋亡的信号传导通路及与凋亡相关的基因和蛋白  
刘丹 康宏 孙传真 肖野 赵凯
- 4:422 纤维素酶家族及其催化结构域分子改造的新进展  
张小梅 李单单 王禄山 赵越 陈冠军
- 4:434 气相色谱-质谱联用技术及其在代谢组学中的应用  
李娟 任路静 孙冠男 黄和
- 5:551 假基因鉴定及其功能分析  
刘慧 邹林 林凤
- 5:568 阳离子聚合物在非病毒基因转染中的研究进展  
任先越 杨立群 梁玄 刘珍珍 邓宇斌
- 5:578 鸡microRNA的研究进展  
满朝来 甄鑫 唐高霞 赵丽 李凤 邱晓菊
- 6:701 基元模式分析在生物网络和途径分析中的应用  
赵权宇 于水燕 史吉平
- 9:1201 基因设计对重组蛋白表达的影响研究进展  
蔡海莺 李杨 张辉 冯凤琴
- 9:1214 微生物发酵生产5-氨基乙酰丙酸研究进展  
康振 张俊丽 杨森 堵国成 陈坚
- 9:1223 糖脂生物表面活性剂——甘露糖赤藓糖醇脂的研究进展  
范琳琳 张俊 蔡瑾 董亚晨 徐腾洋 何国庆 陈启和

- 11:1531 Cavins: 胞膜窖相关蛋白新视野  
史丹 刘艳 廉馨 邹伟
- 11:1538 间充质干细胞在动脉粥样硬化治疗中的研究进展  
刘佳佳 张亦婷 彭航 刘鹏霞
- 11:1548 线粒体功能异常与肿瘤的生成  
汤春玲 向仲怀 崔红娟
- 11:1558 真菌诱导子在发酵工业中的应用现状及展望  
古绍彬 龚慧 杨彬 卜美玲
- 12:1721 宏基因组学在人和动物胃肠道微生物研究中的应用进展  
许波 杨云娟 李俊俊 唐湘华 慕跃林 黄遵锡
- 12:1736 实验室重构流感病毒的生物安全问题  
贾晓娟 黄力勤 刘文军

### 生物能源专刊

- 3:261 2013生物能源专刊序言  
刘德华
- 3:265 美国可再生燃料标准实施机制与市场跟踪  
康利平 Robert Earley 安锋 张宇
- 3:274 纤维素乙醇高温发酵的研究进展与展望  
乐易林 邵蔚蓝
- 3:285 航空生物燃料制备技术及其应用研究进展  
孙晓英 刘祥 赵雪冰 杨明 刘德华
- 3:299 关于大型石油公司发展生物能源产业的思考  
孙海洋 苏海佳 谭天伟 刘蜀敏 王慧
- 3:312 木薯纤维素乙醇发酵的纤维素酶成本评价  
方镇宏 邓红波 张小希 张建 鲍杰
- 3:325 通气量和菊粉浓度对克鲁维酵母乙醇发酵的影响  
高教琪 袁文杰 陈丽杰 韩锡铜 白凤武
- 3:333 斑茅酶解转化可发酵单糖的液氮预处理及参数优化  
刘建军 彭何欢 赵相君 程成 陈峰 邵千钧
- 3:342 合成气发酵制取乙醇微生物的对比  
宋安东 冯新军 王凤芹 谢慧 杨大娇
- 3:350 乙酸、糠醛和5-羟甲基糠醛对产酸克雷伯氏菌发酵生产2,3-丁二醇的影响  
吴晶 程可可 李文英 冯杰 张建安
- 3:358 碳源种类及碳氮比对眼点拟微绿球藻生长密度、油脂含量和脂肪酸组成的影响  
窦晓 陆向红 卢美贞 薛蓉 晏荣军 计建炳

- 3:370** 产油嗜碱绿球藻 MC-1 的烟气适应性  
杨熙 向文洲 张峰 吴华莲 何慧 范洁伟
- 3:382** 布朗葡萄藻脂质含量的荧光光谱检测方法的改进  
刘新颖 汪志平 于金鑫 吕蓓芬 马丽芳 陈子元
- 3:392** 解纤维梭菌培养条件的优化  
王朗 刘志丹 王天民 吴筱 张翀 汪群慧 邢新会

## 合成生物学专刊

- 8:1041** 2013 合成生物学专刊序言  
陈国强
- 8:1044** 微生物基因组精简优化的研究进展  
王建莉 王小元
- 8:1064** 合成生物系统的组合优化  
顾群 李一凡 陈涛
- 8:1075** 基因合成技术研究进展  
冯森 王璐 田敬东
- 8:1086** 应用合成生物学策略优化光合蓝细菌底盘  
巫琴 陈磊 王江新 张卫文
- 8:1100** 链霉菌无痕敲除方法研究进展  
谷燕燕 耿伟涛 宋存江
- 8:1113** DNA 组装新方法的研究进展  
李雷 芦银华 姜卫红
- 8:1123** 蛋白质预算：合成生物学的成本标尺  
刘伟丰 陶勇
- 8:1133** 产溶剂梭菌分子遗传操作技术研究进展  
顾阳 杨晟 姜卫红
- 8:1146** 复杂天然产物合成人工生物系统的设计与构建  
汪建峰 蒙海林 熊智强 王勇
- 8:1161** 微生物木糖代谢途径改造制备生物基化学品  
刘维喜 付晶 章博 陈涛
- 8:1173** 一种基于代谢网络分析最小化基因组的方法及其在大肠杆菌中的应用  
汤彬彩 郝彤 袁倩倩 陈涛 马红武
- 8:1185** 构建酿酒酵母工程菌合成香紫苏醇  
杨薇 周雍进 刘武军 沈宏伟 赵宗保

## 生物基化学品专刊

- 10:1351** 2013 生物基化学品专刊序言  
邢建民
- 10:1354** 基于重组策略的一体化生物加工过程最新进展  
郑宗宝 赵美娜 陈涛 赵学明

- 10:1363** 工程大肠杆菌生产高附加值有机酸、醇研究进展  
王纪明 刘炜 徐鑫 张海波 咸漠
- 10:1374** 己二酸的生物合成  
韩丽 陈五九 元飞 张媛媛 王钦宏 马延和
- 10:1386** 微生物发酵生产丁二酸研究进展  
刘嵘明 梁丽亚 吴明科 姜岷
- 10:1398** 基因工程菌发酵生产 L-乳酸研究进展  
姜旭 王丽敏 张桂敏 于波 曾庆韬
- 10:1411** 生物基乳酸生物转化研究进展  
高超 马翠卿 许平
- 10:1421** 合成高级醇的微生物细胞工厂研究进展  
刘增然 张光一
- 10:1431** 乙烯的直接生物合成  
孙芝兰 陈以峰
- 10:1441** 盐析萃取生物基化学品的研究进展  
戴建英 刘春娇 孙亚琴 修志龙
- 10:1450** 利用代谢工程构建 D-甘露醇生产菌株  
王小芳 陈晶 刘萍萍 徐洪涛 郁彭 张学礼
- 10:1463** 糠醛和 5-羟甲基糠醛对大肠杆菌产丁二酸的影响  
王丹 王洪辉 王競 汪楠 张杰 邢建民
- 10:1473** 响应面优化产琥珀酸放线杆菌生产丁二酸  
申乃坤 秦艳 王青艳 谢能中 米慧芝 朱绮霞  
廖思明 黄日波
- 10:1484** 酿酒酵母产苹果酸的还原 TCA 路径构建及发酵调控  
闫道江 王彩霞 周杰民 刘谊兰 杨茂华 邢建民
- 10:1494** 琥珀酸脱氢酶或琥珀酰辅酶 A 合成酶缺失促进大肠杆菌积累 5-氨基乙酰丙酸  
蒲伟 陈久洲 孙村民 陈宁 孙际宾 郑平 马延和
- 10:1504** 聚羟基丁酸路径在克雷伯氏菌中的构建  
郭晓晨 刘宏娟 王艳萍 张建安 刘德华
- 10:1515** 萃取耦合技术对玉米秸秆水解液发酵产丁醇的影响  
王风芹 程翔 谢慧 张瑞 李传斌 宋安东

## 动物及兽医生物技术

- 1:21** 美洲型与欧洲型猪繁殖与呼吸综合征病毒 Nsp7 蛋白的截短表达和鉴定  
邱鹏 宁昆 蔡林 刘奇 汪葆玥 翟新验 遇秀玲
- 4:447** 干扰视黄醇结合蛋白 4 对猪脂肪细胞 PI3K/Akt 信号通路的影响  
蒲蕾 程佳 吴国芳 杨浩 仇杨 张振宇 杨公社  
孙世锋

4:458	Kozak 序列对金黄色葡萄球菌黏附因子 FnBPA DNA 疫苗 诱导小鼠免疫应答的影响	性质分析
	苏艳 王世民 邵俊高 张宝江 韦海娜	马腾博 令桢民 康振 李江华 堵国成 陈坚
5:586	中国部分地区蝙蝠携带病毒的宏基因组学分析	来源于葡萄球菌的 N-乙酰神经氨酸裂合酶的基因克隆及 性质
	杨凡力 王意银 郑文成 何彪 江廷磊 李莹莹	周传华 陈曦 冯进辉 肖冬光 吴治庆 朱敦明
5:601	家蝇蛹甘露糖结合凝集素的结构及免疫调节作用	稀碱预处理棕榈残渣制备纤维乙醇
	王春玲 夏焱 张士娇 王利蕊 曹小红	张海燕 周玉杰 李晋平 戴玲妹 刘德华 张建安
6:716	猪 VHL 基因克隆及敲低克隆胚胎的构建	Yuen May Choo Soh Kheang Loh
	金红红 王健宇 王芳 马婧 牟彦双 刘忠华	重组α-氨基酸酯水解酶合成头孢曲嗪
7:891	日本血吸虫 SjIrv1 的基因特性及免疫保护效果	潘佳林 王铭 李端华 叶丽娟
	魏梅梅 熊雅念 洪炀 黄莉妮 孟培培 艾德宙 张曼 傅志强 刘升发 林矫矫	利用人工锌指文库筛选高乙醇耐受性工业酵母菌株
7:904	三个地方鸡种 MHC B-L BII 基因遗传变异与免疫性状的关 联分析	马翠 赵心清 李倩 张明月 Jin Soo Kim 白凤武
	李福伟 李淑青 逯岩 雷秋霞 韩海霞 周艳 武彬 曹顶国	兼性厌氧芽孢杆菌 TSH1 丁醇代谢途径中关键酶的检测
11:1573	人工锌指核酸酶突变 EGFP 基因的功能分析	段晓瑞 王根宇 刘宏娟 薛建伟 张建安
	袁玉国 于宝利 宋绍征 周峰 张利清 顾迎迎 禹明慧 成勇	含自杀基因回路的大肠杆菌的生长和变异规律
12:1743	内蒙古白绒山羊 erk2 基因的克隆及表达模式分析	高祺 郑雪松
	王彦凤 吴曼琳 王晓晶 王婧 李洋 连梦瑶 王志钢	枯草芽孢杆菌 168 不对称转化产生磷霉素的蛋白质组学分析
<b>工业生物技术</b>		
1:31	生物催化 3-(4-氯苯基)-戊二腈去对称性水解合成光学纯巴 氯芬的关键前体	解复红 钟亚鹏 石家骥 张国青 杨敬 钱世钧
	徐美珍 任杰 龚劲松 董文明 吴治庆 许正宏 朱敦明	调控酿酒酵母类异戊二烯合成途径强化芳樟醇合成
1:41	多个调控元件调控萜类合成途径基因表达提高 β-胡萝卜素 的生产	孙明雪 刘继栋 堵国成 周景文 陈坚
	赵婧 刘怡 李清艳 朱欣娜 张学礼	大肠杆菌合成启动子的构建及在顺,顺-粘康酸生物合成 中的应用
1:56	理性设计和构建过量合成莽草酸的大肠杆菌代谢工程菌	吴元庆 张媛媛 涂然 刘浩 王钦宏
	李明明 陈献忠 周丽 沈微 樊游 王正祥	一种新的 DyP-type 过氧化物酶在大肠杆菌中的重组表 达、纯化及鉴定
1:68	不对称还原大位阻二芳香基甲酮的羰基还原酶的基因克隆 及性质分析	汪立群 Alan K. Chang 袁文杰 白凤武
	李哲 刘卫东 陈曦 贾士儒 吴治庆 朱敦明 马延和	多杀菌素生物合成基因簇启动子探测和转录时序
2:169	一种来源于毕赤酵母的高对映选择性羰基还原酶的性质及 底物谱分析	冯晓洲 王为善 任晓慧 刘新利 毛相朝 杨克迁
	田来强 刘卫东 陈曦 冯进辉 杨洪江 吴治庆 朱敦明 马延和	双碳源流加对重组毕赤酵母高效表达葡萄糖氧化酶的影 响
2:180	利用毕赤酵母系统直接分泌表达具有活性的谷氨酰胺转氨酶	沈伊娜 顾磊 张娟 陈坚 堵国成
	李鹏飞 孙红兵 游丽金 巩伏雨 陈藻 张爱联 朱泰承	大肠杆菌工程菌 ptsG 基因敲除及其缺陷株混合糖同型乙 醇发酵
4:466	灰色链霉菌胰蛋白酶在变铅青链霉菌中的异源表达及酶学	严涛 赵锦芳 高文慧 王金华 王永泽 赵薇 周胜德
		α-环糊精糖基转移酶活性区域突变提高选择形成 γ-环糊精 能力
9:1234		谢婷 岳洋 宋炳红 钟亚鹏 钱世钧
9:1245		烟曲霉 β-葡萄糖苷酶的基因克隆、表达及酶学性质分析
		谢贻 欧阳浩淼 黄日波 陈东 金城
9:1254		构建伴有 β-葡萄糖苷酶表达的乙醇发酵大肠杆菌
		张瑶 罗紫臣 高秋强 鲍杰

<b>9:1268</b>	代谢工程大肠杆菌利用甘油高效合成 L-乳酸	端片段活性丧失
	田康明 石贵阳 路福平 Suren Singh 王正祥	高蔚丰 王娟
<b>9:1278</b>	同源过表达 <i>fnr</i> 、 <i>pncB</i> 和 <i>fdhF</i> 对克雷伯菌产氢代谢的影响	人 CD96 第一个 IgV 结构域的表达、结晶及晶体学分析
	王姝玉 王俊 徐莉 皮健 张后今 闫云君	姜文婧 张水军 严景华 郭宁
<b>9:1290</b>	2,3-丁二醇代谢途径关键酶基因敲除对克雷伯氏菌发酵产 1,3-丙二醇的影响	细胞酶联反应法 (cell-ELA) 测定特异结合 U87-EGFRvIII 细胞的适配子的亲和力
	郭欣坤 方慧英 诸葛斌 宗红 宋健 诸葛健	谭燕 梁惠玉 伍锡栋 高宇博 张兴梅
<b>11:1581</b>	β-1,3-葡甘露聚糖酶辅助提取圆红冬孢酵母油脂	增强型金黄色葡萄球菌肠毒素 C2 突变体及其超抗原活性
	靳国杰 杨晓兵 沈宏伟 王雅南 龚志伟 赵宗保	张国俊 徐明恺 孙健 李洪义 杨宏丽 张惠文 张成刚
<b>11:1590</b>	新型羟基化酶基因的克隆及其洛伐他汀转化的应用	核酸疫苗初免-蛋白疫苗加强的免疫策略提高日本血吸虫 核酸疫苗免疫效果
	霍孝雨 诸葛斌 方慧英 宗红 宋健 诸葛健	刘秉春 崔新洁 罗新松 王潇
<b>12:1753</b>	易错 PCR 提高华根霉脂肪酶的热稳定性	miR-24 通过靶基因 <i>Spi</i> 调控 β-类珠蛋白表达
	王睿 喻晓蔚 徐岩	马艳妮 王斌 巩蓓 王芳 赵华路 张俊武 余佳
<b>环境生物技术</b>		
<b>2:161</b>	生物电化学系统还原降解氯霉素	9R 穿膜肽可增强 P53 抗肿瘤效果
	孙飞 王爱杰 严群 张光生	刘源 陈睿 张楠 叶贤龙 白银 魏雨泉 任桂萍 李德山
<b>农业生物技术</b>		
<b>1:78</b>	灰葡萄孢菌 <i>AURI</i> 基因真核表达载体的构建、表达及酶活性分析	B19 病毒 11 kDa 蛋白对 HeLa 细胞内 NF-κB 信号通路的影响
	邱永春 刘小平 苟萍	董衍明 黄玉 彭建新 李毅
<b>2:189</b>	拟南芥不定芽发生早期的数字基因表达谱分析	人视黄醇结合蛋白 4 在杆状病毒系统中的表达及其多克隆 抗体制备
	王兴春 杨致荣 张树伟 李红英 李生才	任玉莹 陈丹 郭玉争 史洪娜 刘娟 班靖洋
<b>2:203</b>	蕙兰 <i>MADS</i> 基因 <i>APETALA1/FRUITFULL-like</i> 的克隆和时空表达特性(英文)	刘亚宁 吴晓芳 王维龙 程海 李鼎锋 刘勇 王立良
	田云芳 袁秀云 蒋素华 崔波 苏金乐	11:1607 重组人丝氨酸蛋白酶抑制因子 Hespintor Kazal 结构域的原核表达、纯化及活性鉴定
<b>5:630</b>	酿酒酵母脂酰-Δ9 脱氢酶亚细胞定位表达及其对烟草脂肪 酸合成的影响	冯洁 伦永志 李越 武会娟 李宝明 魏玲 张小莉 王雪蕾 迟庆
	薛金爱 毛雪 吴永美 杨致荣 贾小云 张莉 王计平 岳爱琴 孙希平 李润植	12:1765 电转联合热休克蛋白佐剂疫苗引发抗 HBV 的免疫应答(英文)
<b>5:646</b>	三例小麦细胞质雄性不育系线粒体 DNA 的扩增片段长度 多态性分析	徐亚星 王彦中 赵报 张小俊 范红霞 李星辉 孟颂东
	朱启迪 张新钵 Ejaz M 张改生 车会学 王书平 宋齐鲁 杨书玲 张龙雨	12:1776 单纯疱疹病毒 2 型潜伏相关转录体 ORF1 的表达及其抗凋亡作用
<b>6:785</b>	药用植物长春花 WRKY 转录因子的鉴定及表达谱分析	吕芳彪 杨慧兰 钟菲菲 樊建勇 刘艳华 高瑞迪
	杨致荣 王兴春 薛金爱 孟令芝 李润植	12:1786 M1GS-HCV/C <sub>141</sub> 核酶的构建及其体外抗病毒活性测定
<b>11:1599</b>	‘红阳’猕猴桃叶盘高频直接再生体系的建立	李喜芳 张文军 黄志文 张成成 罗桂飞
	赵许朋 罗克明 周月 吴秀华 杨立 汤绍虎	<b>组织工程与细胞培养</b>
<b>医学与免疫生物技术</b>		
<b>1:87</b>	保守的第 52 位色氨酸突变引起的胰高血糖素样肽 1 受体 N	<b>2:214</b> 真菌诱导子与吸附树脂对新疆紫草毛状根中萘醌积累的影响 张璞 王芳 朱查山
		<b>7:986</b> Ca <sup>2+</sup> 在水杨酸诱发的丹参培养细胞培养基碱化过程中的作用 刘连成 王聪 董娟娥 苏慧 卓泽群 薛雅馨

<b>11:1617</b>	1-磷酸鞘氨醇促进间充质干细胞向心肌分化 姜丽丽 刘天庆 宋克东 关水 李香琴 葛丹	<b>9:1313</b>	小鼠 frataxin 抗体的制备及应用 郝双影 许芳霞 李宽钰
<b>11:1629</b>	聚乳酸微柱阵列型拓扑结构基底上 SH-SY5Y 细胞 VEGF 和 IL-8 的分泌及表达 范志刚 林雨 黄岂平 罗美容 田青华 钟冬火 冯全文	<b>9:1323</b>	大腹园蛛次垂腹腺丝的表达 杨子江 陈格飞 孟清
<b>12:1796</b>	静电纺丝法构建食道上皮组织 陈玲 吕静静 於学祥 康骋 章亚斌	<b>9:1332</b>	集胞藻 PCC6803 高效基因表达平台的构建与评价 齐凤霞 谈晓明 吕雪峰
		<b>11:1644</b>	多聚精氨酸融合增强型绿色荧光蛋白制备方法及穿膜效果 张楠 白银 赵景壮 叶贤龙 王文飞 任桂萍 李德山 荆燕
		<b>11:1654</b>	带 Myc、His 标签的 SPAG4L 真核表达载体的构建与表达 陈颜亮 郑治 王剑龙 周晓哲 李艳 杨梦 黄利华 邢晓为
<b>1:95</b>	用重组 8 型腺相关病毒载体介导的乙型肝炎病毒持续感染小鼠模型评价核苷类似物的抗病毒效果 王国婧 王刚 董小岩 田文洪 尉迟捷 魏国超 孟红 吴小兵	<b>11:1663</b>	乙肝病毒核心蛋白钉突部位基因工程改造对其功能的影响 陈江燕 黄荣 陶颖 黄媛 罗英英 黄爱龙 胡接力
<b>2:224</b>	玉米、小麦、水稻原生质体制备条件优化 孙鹤 郎志宏 朱莉 黄大昉	<b>12:1808</b>	乙肝病毒 S 抗原和 preS1 抗原表位融合蛋白(S/preS1) 在 CHO 细胞中的稳定高效表达 杨振西 李世崇 刘红 张苗 叶玲玲 吴彦卓 徐明波 陈昭烈
<b>2:235</b>	测定重组腺相关病毒基因组滴度的 qPCR 新方法 蒙青林 张彬彬 张春	<b>12:1817</b>	Alg-g-PEI/pVEGF 复合物体内促血管生成作用 黄忠辉 滕伟 陈盈 王琴梅
<b>4:510</b>	构建定向 T 载体用于基因克隆和表达 钟星 翟超 陈亮 余晓岚 蒋思婧 严红 杨登想 马立新	<b>12:1828</b>	利用 6-磷酸-β-葡萄糖苷酶在低温条件下获得酶-底物复合物实际结构的方法 王薇 刘一苇 李宏滨
<b>4:520</b>	超正电荷绿荧光蛋白+36GFP 作为核酸载体的细胞穿透性分析 李红玉 房有荣 于海涛 俞盈 阎辉	<b>12:1836</b>	Ca <sup>2+</sup> 对水杨酸诱发的丹参幼苗丹酚酸 B 生物合成的影响 曹蓉蓉 行冰玉 党小琳 姚雅琴 刘连成 董娟娥
<b>5:672</b>	免疫磁珠富集技术联合选择性培养基快速检测单增李斯特菌 闻一鸣 李志清 童吉宇 向军俭	<b>12:1847</b>	利用 Cre/LoxP 系统删除转基因山羊体内的选择标记基因 兰翀 任丽娜 吴敏 刘思国 刘国辉 徐旭俊 陈建泉 马恒东 成国祥
<b>5:681</b>	分子马达生物传感器检测食源性轮状病毒 张捷 许美玲 王璇 王煜 王小晋 刘岩 顾德周 陈广全 王佩荣 乐加昌		
<b>6:823</b>	II型抗癌晶体蛋白抗肝癌作用的关键芳香族氨基酸 廖利民 林淑芳 田凌 陈爱明 林毅		
<b>6:836</b>	黄粉虫抗菌肽在大肠杆菌中表达条件优化及活性分析 热依汗古丽·阿里木 毛新芳 刘忠渊	<b>1:107</b>	酶法制备 1-磷酸葡萄糖合成条件的响应曲面法优化 王晓娟 靳利娥 畅芬芬 阎果兰
<b>7:998</b>	hPARP1 酶在杆状病毒/昆虫细胞中的高表达及快速纯化 周海燕 马军 杨雪丽 龚笑海 李秋萍 金坚	<b>1:111</b>	利用温度调节实现新型重组菌高效转化甘油为 D-乳酸 田康明 周丽 陈献忠 沈微 石贵阳 Suren Singh 路福平 王正祥
<b>7:1006</b>	慢病毒载体转录通读率检测方法的建立 何佳平 方彧聃 张帆 孙凤强 王娟 张敬之	<b>1:115</b>	制备可溶性肿瘤坏死因子受体 II-一脂联素球部融合蛋白的两种细胞培养工艺比较 黄世高 尹玉婷 熊春晖 王彩虹 吕建新 高基民
<b>7:1016</b>	高通量 miRNA 活性谱检测发现 BHK21 细胞中 miR-206 高活性 田文洪 董小岩 王刚 郑刚 周庆璋 董哲岳 吴小兵	<b>1:119</b>	重离子诱变创制高产油微拟球藻新品种 王芝瑶 马玉彬 牟润芝 孙长江 张东远 王永飞
<b>9:1301</b>	基于细菌群感效应人工构建分子开关 张志伟 吴胜	<b>2:243</b>	响应面法优化生防菌吡咯伯克霍尔德氏菌 JK-SH007 的

发酵工艺	<b>11:1701</b> 阿魏酸液体发酵过程菌体形态变化对产漆酶的影响 陈友枝 王璐 彭林 丁重阳 张梁 顾正华 石贵阳 章克昌
<b>4:532</b> 大肠杆菌细胞抽提物制备方案的简化与优化 郭新娟 权春善 赵朋超 王丽娜 范圣第	<b>11:1706</b> 酶解破壁促进废次烟叶中茄尼醇溶浸 王星敏 张渝文 张桂芝 殷钟意
<b>4:536</b> 双液相体系强化氧传递促进微生物油脂生产 颜日明 艾佐佐 汪涯 张志斌 曾庆桂 朱笃	<b>12:1855</b> 烟酸转磷酸核糖激酶和丙酮酸羧化酶共表达对大肠杆菌 BA002 产丁二酸的影响 曹伟佳 苟冬梅 梁丽亚 刘嵘明 陈可泉 马江峰 姜岷
<b>5:691</b> 应用纤维素结合域标签构建谷氨酸棒状杆菌表达系统 赵志敬 蒋欢 沈文婷 宋激滟 胡广	<b>12:1860</b> pH与溶氧控制对解淀粉芽孢杆菌发酵粗甘油生产2,3-丁二 醇的影响 杨奎伟 饶志明 张显 徐美娟 许正宏
<b>6:848</b> 高效转化黄姜皂苷为薯蓣皂苷元菌株的筛选及转化条件优化 张佳佳 李会 李恒 陆震鸣 史劲松 许正宏	<b>12:1865</b> 氮源种类及浓度对眼点拟微绿球藻生长密度、油脂产率和 二十碳五烯酸含量的影响 陆向红 张秋红 卢美贞 窦晓 黄晨蕾 贾俊乾 计建炳
<b>6:853</b> 液化沙雷氏菌磷脂酶 A <sub>1</sub> 的克隆表达及乳糖自诱导发酵 延晋雷 张梁 顾正华 丁重阳 石贵阳	<b>12:1870</b> 脂肽-糖脂混合生物表面活性剂产生菌筛选和优化培养 刘皓 杨欢 李雪 李煦 端木勉 于慧敏
<b>6:857</b> 响应面法优化海洋微生物发酵产生纤溶化合物的培养条件 苏同伟 包斌 严婷 张朝燕 卜永士 吴文惠	<b>12:1875</b> 大肠杆菌 AFP111 菌体回收连续转化生产丁二酸 吴明科 刘嵘明 梁丽亚 马江峰 陈可泉 姜岷
<b>7:1027</b> 酵母表面展示脂肪酶合成己二酸二异辛酯 张娜 金子 林影 郑穗平 韩双艳	<b>12:1880</b> 细胞培养工艺条件对抗体异质性影响的研究进展 段须杰 刘睿 徐卫涛 任彤 罗厚勇
<b>11:1672</b> 三种选育高乙醇耐受性工业酿酒酵母方法的比较 李倩 赵心清 Jin-Soo Kim 白凤武	<b>会议要闻</b>
<b>11:1676</b> 酵母菌利用糖蜜发酵产麦角甾醇的工艺条件优化 王绍杰 郭雪娜 何秀萍 张博润	<b>2:247</b> 抗生素可替代品——噬菌体和益生菌会议 裴广倩 韩传银 史套兴 童贻刚
<b>11:1681</b> 优化硫酯酶表达提高大肠杆菌脂肪酸乙酯的生物合成效率 杨柳 朱至 刘爱秋 吕雪峰	<b>历史回眸</b>
<b>11:1687</b> 三羟基雄甾烯酮高转化菌株的选育及工艺优化 李会 张明杰 张晓梅 李恒 史劲松 许正宏	<b>4:540</b> 我国著名医学病毒学和生物制品学专家——朱既明 阮力
<b>11:1692</b> 常压室温等离子体诱变高效利用木糖产丁二酸菌株 万青 曹伟佳 张常青 刘嵘明 梁丽亚 陈可泉 马江峰 姜岷	
<b>11:1696</b> 过量表达异柠檬酸裂解酶对 <i>ldh</i> <sup>-1</sup> 谷氨酸棒状杆菌产丁二酸 的影响 杨超 郝宁 严明 高璐 许琳	

(卷终)

# CHINESE JOURNAL OF BIOTECHNOLOGY

CONTENTS Vol. 29 2013

## **Invited Review**

- 1:1 The receptors and entry of measles virus: a review  
*Guangwen Lu, George F. Gao, and Jinghua Yan*
- 4:411 Trends in polymer-grade L-lactic acid fermentation by non-food biomass  
*Bo Yu, Yan Zeng, Xu Jiang, Limin Wang, and Yanhe Ma*
- 7:871 Diversity and genetic stability of yeast flocculation caused by variation of tandem repeats in yeast flocculin genes  
*Feng Yue, Xuena Guo, Xiuping He, and Borun Zhang*
- 7:880 Progress in new-type vaccines against classical swine fever  
*Chunhua Wang, Yuan Sun, and Huajie Qiu*

## **Review**

- 1:10 Application of functional quantum dots in cancer diagnosis and therapy: a review  
*Shuang Han, Tian Xia, Qingning Li, Junming Guo, and Peibei Lu*
- 2:131 Frontier and prospect of micro/nano biofabrication based on microbes  
*Zhijun Shi, Xudian Shi, Zhen Sun, and Guang Yang*
- 2:141 Progress in microbial production of  $\alpha$ -ketoglutarate  
*Hongwei Guo, Guocheng Du, Jingwen Zhou, and Jian Chen*
- 2:153 Paclitaxel induced apoptotic genes and pathways alterations: a review  
*Dan Liu, Hong Kang, Chuanzhen Sun, Ye Xiao, and Kai Zhao*
- 4:422 Molecular engineering of cellulase catalytic domain based on glycoside hydrolase family  
*Xiaomei Zhang, Dandan Li, Lushan Wang, Yue Zhao, and Guanjun Chen*
- 4:434 Gas chromatography-mass spectrometry (GC-MS) and its application in metabolomics  
*Juan Li, Lujing Ren, Guannan Sun, and He Huang*
- 5:551 Identification and function analysis of pseudogenes  
*Hui Liu, Cheng Zou, and Feng Lin*
- 5:568 Advances in cationic polymers used as nonviral vectors for gene delivery  
*Xianyue Ren, Liqun Yang, Xuan Liang, Zhenzhen Liu, and Yubin Deng*

- 5:578 Progress in chicken microRNAs  
*Chaolai Man, Xin Zhen, Gaoxia Tang, Li Zhao, Feng Li, and Xiaoju Mi*
- 6:701 Applications of elementary mode analysis in biological network and pathway analysis  
*Quanyu Zhao, Shuiyan Yu, and Jiping Shi*
- 9:1201 Effects of gene design on recombinant protein expression: a review  
*Haiying Cai, Yang Li, Hui Zhang, and Fengqin Feng*
- 9:1214 Advances in microbial production of 5-aminolevulinic acid  
*Zhen Kang, Junli Zhang, Sen Yang, Guocheng Du, and Jian Chen*
- 9:1223 Advance in glycolipid biosurfactants — mannosylerythritol lipids  
*Linlin Fan, Jun Zhang, Jin Cai, Yachen Dong, Tengyang Xu, Guoqing He, and Qihe Chen*
- 11:1531 Cavins: new sights of caveolae-associated protein  
*Dan Shi, Yan Liu, Xin Lian, and Wei Zou*
- 11:1538 Progress in mesenchymal stem cells for treatment of atherosclerosis  
*Jiajia Liu, Yiting Zhang, Hang Peng, and Pengxia Liu*
- 11:1548 Essential role of mitochondria in tumorigenesis  
*Chunling Tang, Zhonghuai Xiang, and Hongjuan Cui*
- 11:1558 Application and prospect of fungi elicitors in fermentation industry  
*Shaobin Gu, Hui Gong, Bin Yang, and Meiling Bu*
- 12:1721 Metagenomics in studying gastrointestinal tract microorganism  
*Bo Xu, Yunjuan Yang, Junjun Li, Xianghua Tang, Yuelin Mu, and Zunxi Huang*
- 12:1736 Biosafety issues and public concerns on recombinant influenza viruses generated in the laboratories  
*Xiaojuan Jia, Liqin Huang, and Wenjun Liu*
- Special Issue on Bioenergy**
- 3:261 Preface for special issue on bioenergy (2013)  
*Dehua Liu*
- 3:265 U.S. Renewable Fuel Standard implementation mechanism and market tracking

	<i>Liping Kang, Robert Earley, Feng An, and Yu Zhang</i>	content in <i>Botryococcus braunii</i>
3:274	Advances in and challenges for thermophilic fermentation of cellulosic ethanol	<i>Xinying Liu, Zhiping Wang, Jinxin Yu, Beifen Lü, Lifang Ma, and Ziyuan Chen</i>
	<i>Yilin Le, and Weilan Shao</i>	
3:285	Progress in synthesis technologies and application of aviation biofuels	<i>3:392 Optimization of culture conditions for Clostridium cellulolyticum</i>
	<i>Xiaoying Sun, Xiang Liu, Xuebing Zhao, Ming Yang, and Dehua Liu</i>	<i>Lang Wang, Zhdan Liu, Tianmin Wang, Xiao Wu, Chong Zhang, Qunhui Wang, and Xinhui Xing</i>
3:299	Reflection on developing bio-energy industry of large oil company	
	<i>Haiyang Sun, Haijia Su, Tianwei Tan, Shumin Liu, and Hui Wang</i>	
3:312	Evaluation of the cellulase cost during the cassava cellulose ethanol fermentation process	
	<i>Zhenhong Fang, Hongbo Deng, Xiaoxi Zhang, Jian Zhang, and Jie Bao</i>	
3:325	Effect of aeration and inulin concentration on ethanol production by <i>Kluyveromyces marxianus</i> YX01	
	<i>Jiaoqi Gao, Wenjie Yuan, Lijie Chen, Xitong Han, and Fengwu Bai</i>	
3:333	Optimization of liquid ammonia treatment for enzymatic hydrolysis of <i>Saccharum arundinaceum</i> to fermentable sugars	
	<i>Jianjun Liu, Hehuan Peng, Xiangjun Zhao, Cheng Cheng, Feng Chen, and Qianjun Shao</i>	
3:342	Comparison of microorganisms fermenting syngas into ethanol	
	<i>Andong Song, Xinjun Feng, Fengqin Wang, Hui Xie, and Dajiao Yang</i>	
3:350	Effect of acetic acid, furfural and 5-hydroxymethylfurfural on production of 2,3-butanediol by <i>Klebsiella oxytoca</i>	
	<i>Jing Wu, Keke Cheng, Wenying Li, Jie Feng, and Jian'an Zhang</i>	
3:358	Effects of carbon source and concentration on the growth density, lipid accumulation and fatty acid composition of <i>Nannochloropsis oculata</i>	
	<i>Xiao Dou, Xianghong Lu, Meizhen Lu, Rong Xue, Rongjun Yan, and Jianbing Ji</i>	
3:370	Adaptability of oleaginous microalgae <i>Chlorococcum alkaliphilus</i> MC-1 cultivated with flue gas	
	<i>Xi Yang, Wenzhou Xiang, Feng Zhang, Hualian Wu, Hui He, and Jiewei Fan</i>	
3:382	Improved fluorescence spectrometric determination of lipid	
	<i>8:1041 Preface for special issue on synthetic biology (2013)</i>	
	<i>Guoqiang Chen</i>	
	<i>8:1044 Advances in microbial genome reduction and modification</i>	
	<i>Jianli Wang, and Xiaoyuan Wang</i>	
	<i>8:1064 Combinatorial optimization of synthetic biological systems</i>	
	<i>Qun Gu, Yifan Li, and Tao Chen</i>	
	<i>8:1075 Progress in gene synthesis technology</i>	
	<i>Miao Feng, Lu Wang, and Jingdong Tian</i>	
	<i>8:1086 Engineering photosynthetic cyanobacterial chassis: a review</i>	
	<i>Qin Wu, Lei Chen, Jiangxin Wang, and Weiwen Zhang</i>	
	<i>8:1100 Progress in markerless knockout of chromosome genes in Streptomyces</i>	
	<i>Yanyan Gu, Weitao Geng, and Cunjiang Song</i>	
	<i>8:1113 Perspective on the novel methods for DNA assembly</i>	
	<i>Lei Li, Yinhuai Lu, and Weihong Jiang</i>	
	<i>8:1123 Protein budget: cost estimating criteria for synthetic biology</i>	
	<i>Weifeng Liu, and Yong Tao</i>	
	<i>8:1133 Development in molecular genetic manipulation of solventogenic clostridia</i>	
	<i>Yang Gu, Sheng Yang, and Weihong Jiang</i>	
	<i>8:1146 Design and construction of artificial biological systems for complex natural products biosynthesis</i>	
	<i>Jianfeng Wang, Hailin Meng, Zhiqiang Xiong, and Yong Wang</i>	
	<i>8:1161 Engineering of the xylose metabolic pathway for microbial production of bio-based chemicals</i>	
	<i>Weixi Liu, Jing Fu, Bo Zhang, and Tao Chen</i>	
	<i>8:1173 Genome minimization method based on metabolic network analysis and its application to <i>Escherichia coli</i></i>	
	<i>Bincai Tang, Tong Hao, Qianqian Yuan, Tao Chen, and Hongwu Ma</i>	
	<i>8:1185 Engineering <i>Saccharomyces cerevisiae</i> for sclareol production</i>	
	<i>Wei Yang, Yongjin Zhou, Wujun Liu, Hongwei Shen, and Zongbao K. Zhao</i>	

## **Special Issue on Biobased Chemicals**

- 10:1351** Preface for special issue on biobased chemicals (2013)  
*Jianmin Xing*
- 10:1354** Advances of consolidated bioprocessing based on recombinant strategy  
*Zongbao Zheng, Meina Zhao, Tao Chen, and Xueming Zhao*
- 10:1363** Progress in engineering *Escherichia coli* for production of high-value added organic acids and alcohols  
*Jiming Wang, Wei Liu, Xin Xu, Haibo Zhang, and Mo Xian*
- 10:1374** Biosynthesis of adipic acid  
*Li Han, Wujiu Chen, Fei Yuan, Yuanyuan Zhang, Qinrong Wang, and Yanhe Ma*
- 10:1386** Progress in microbial production of succinic acid  
*Rongming Liu, Liya Liang, Mingke Wu, and Min Jiang*
- 10:1398** Recent developments in L-lactate fermentation by genetically modified microorganisms  
*Xu Jiang, Limin Wang, Guimin Zhang, Bo Yu, and Qingtao Zeng*
- 10:1411** Progress in biotransformation of bio-based lactic acid  
*Chao Gao, Cuiqing Ma, and Ping Xu*
- 10:1421** Advance in producing higher alcohols by microbial cell factories  
*Zengran Liu, and Guangyi Zhang*
- 10:1431** Direct biosynthesis of ethylene  
*Zhilan Sun, and Yifeng Chen*
- 10:1441** Research progress in salting-out extraction of bio-based chemicals  
*Jianying Dai, Chunjiao Liu, Yaqin Sun, and Zhilong Xiu*
- 10:1450** Production of D-mannitol by metabolically engineered *Escherichia coli*  
*Xiaofang Wang, Jing Chen, Pingping Liu, Hongtao Xu, Peng Yu, and Xueli Zhang*
- 10:1463** Effects of furfural and 5-hydroxymethylfurfural on succinic acid production by *Escherichia coli*  
*Dan Wang, Honghui Wang, Jing Wang, Nan Wang, Jie Zhang, and Jianmin Xing*
- 10:1473** Optimization of succinic acid fermentation with *Actinobacillus succinogenes* by response surface methodology  
*Naikun Shen, Yan Qin, Qingyan Wang, Nengzhong Xie, Huizhi Mi, Qixia Zhu, Siming Liao, and Ribo Huang*
- 10:1484** Construction and fermentation control of reductive TCA pathway for malic acid production in *Saccharomyces cerevisiae*  
*Daojiang Yan, Caixia Wang, Jiemin Zhou, Yilan Liu, Maohua Yang, and Jianmin Xing*
- 10:1494** Deficiency of succinic dehydrogenase or succinyl-CoA synthetase enhances the production of 5-aminolevulinic acid in recombinant *Escherichia coli*  
*Wei Pu, Jiuzhou Chen, Cunmin Sun, Ning Chen, Jibin Sun, Ping Zheng, and Yanhe Ma*
- 10:1504** Construction of polyhydroxybutyrate pathway in *Klebsiella pneumoniae*  
*Xiaochen Guo, Hongjuan Liu, Yanping Wang, Jian'an Zhang, and Dehua Liu*
- 10:1515** Butanol production from corn stover hydrolysate with in-situ liquid-liquid extraction  
*Fengqin Wang, Xiang Cheng, Hui Xie, Rui Zhang, Chuanbin Li, and Andong Song*
- ## **Animal and Veterinary Biotechnology**
- 1:21** Expression and identification of truncated Nsp7 protein of North American and Europe genotype porcine reproductive and respiratory syndrome virus  
*Peng Qiu, Kun Ning, Lin Cai, Qi Liu, Baoyue Wang, Xinyan Zhai, Xiuling Yu, Jianqiang Ni, and Kegong Tian*
- 4:447** Effects of retinol binding protein 4 knockdown on the PI3K/Akt pathways in porcine adipocytes  
*Lei Pu, Jia Cheng, Guofang Wu, Hao Yang, Yang Qiu, Zhenyu Zhang, Gongshe Yang, and Shiduo Sun*
- 4:458** Effect of Kozak sequence on mice DNA vaccine immunization of *Staphylococcus aureus* adhesion fibronectin-binding protein FnBPA-A  
*Yan Su, Shimin Wang, Jungao Shao, Baojiang Zhang, and Haina Wei*
- 5:586** Metagenomic analysis of bat virome in several Chinese regions  
*Fanli Yang, Yiyin Wang, Wencheng Zheng, Biao He, Tinglei Jiang, Yingying Li, Lele Xia, Ye Feng, Quanshu Fan, and Changchun Tu*
- 5:601** Structure and immunomodulation activity of a novel mannose binding lectin from housefly pupae  
*Chunling Wang, Yan Xia, Shijiao Zhang, Lirui Wang, and Xiaohong Cao*
- 6:716** Porcine VHL gene cloning and construction of VHL

	knockdown cloned embryos	
	<i>Honghong Jin, Jianyu Wang, Fang Wang, Jing Ma, Yanshuang Mu, and Zhonghua Liu</i>	
7:891	Characterization and immunoprotective effect of SjIrV1, a 66 kDa calcium-binding protein from <i>Schistosoma japonicum</i>	4:466
	<i>Meimei Wei, Yanian Xiong, Yang Hong, Lini Huang, Peipei Meng, Dezhou Ai, Min Zhang, Zhiqiang Fu, Shengfa Liu, and Jiaojiao Lin</i>	
7:904	Relationships among immune traits and <i>MHC B-LBII</i> genetic variation in three chicken breeds	4:480
	<i>Fuwei Li, Shuqing Li, Yan Lu, Qixia Lei, Haixia Han, Yan Zhou, Bin Wu, and Dingguo Cao</i>	
11:1573	Targeted exogenous EGFP gene editing in caprine fetus fibroblasts by zinc-finger nucleases	4:490
	<i>Yuguo Yuan, Baoli Yu, Shaozheng Song, Feng Zhou, Liqing Zhang, Yingying Gu, Minghui Yu, and Yong Cheng</i>	
12:1743	Cloning and expression pattern of <i>erk2</i> gene in Inner Mongolia Cashmere Goat	4:501
	<i>Yanfeng Wang, Manlin Wu, Xiaojing Wang, Jing Wang, Yang Li, Mengyao Lian, and Zhigang Wang</i>	
<b>Industrial Biotechnology</b>		
1:31	Biocatalytic desymmetric hydrolysis of 3-(4-chlorophenyl)-glutaronitrile to the key precursor of optically pure baclofen	5:612
	<i>Meizhen Xu, Jie Ren, Jingsong Gong, Wenyue Dong, Qiaqing Wu, Zhenghong Xu, and Dunming Zhu</i>	
1:41	Modulation of isoprenoid gene expression with multiple regulatory parts for improved β-carotene production	5:620
	<i>Jing Zhao, Yi Liu, Qingyan Li, Xinna Zhu, and Xueli Zhang</i>	
1:56	Rational design and construction of an overproducing shikimic acid <i>Escherichia coli</i> by metabolic engineering	6:726
	<i>Mingming Li, Xianzhong Chen, Li Zhou, Wei Shen, You Fan, and Zhengxiang Wang</i>	
1:68	Cloning and characterization of a novel carbonyl reductase for asymmetric reduction of bulky diaryl ketones	6:735
	<i>Zhe Li, Weidong Liu, Xi Chen, Shiru Jia, Qiaqing Wu, Dunming Zhu, and Yanhe Ma</i>	
2:169	Biochemical characterization and substrate profile of a highly enantioselective carbonyl reductase from <i>Pichia pastoris</i>	6:751
	<i>Laiqiang Tian, Weidong Liu, Xi Chen, Jinhui Feng, Hongjiang Yang, Qiaqing Wu, Dunming Zhu, and Yanhe Ma</i>	
2:180	Direct secretory expression of active microbial	6:760
	transglutaminase in <i>Pichia pastoris</i>	
	<i>Pengfei Li, Hongbing Sun, Lijin You, Fuyu Gong, Zao Chen, Ailian Zhang, and Taicheng Zhu</i>	
	Heterologous expression and enzymatic analysis of <i>Streptomyces griseus</i> trypsin in <i>Streptomyces lividans</i>	
	<i>Tengbo Ma, Zhenmin Ling, Zhen Kang, Jianghua Li, Guocheng Du, and Jian Chen</i>	
	Molecular cloning and characterization of a N-acetylneuraminate lyase gene from <i>Staphylococcus hominis</i>	
	<i>Chuanhua Zhou, Xi Chen, Jinhui Feng, Dongguang Xiao, Qiaqing Wu, and Dunming Zhu</i>	
	Pretreatment of oil palm residues by dilute alkali for cellulosic ethanol production	
	<i>Haiyan Zhang, Yujie Zhou, Jinping Li, Lingmei Dai, Dehua Liu, Jian'an Zhang, Yuen May Choo, and Soh Kheang Loh</i>	
	Synthesis of cefatrizine by recombinant α-amino acid ester hydrolase	
	<i>Jialin Pan, Lu Wang, Duanhua Li, and Lijuan Ye</i>	
	Breeding of robust industrial ethanol-tolerant <i>Saccharomyces cerevisiae</i> strain by artificial zinc finger protein library	
	<i>Cui Ma, Xinqing Zhao, Qian Li, Mingming Zhang, Jin Soo Kim, and Fengwu Bai</i>	
	Key enzymes in butanol fermentation by a facultative anaerobe <i>Bacillus</i> sp. TSH1	
	<i>Xiaorui Duan, Genyu Wang, Hongjuan Liu, Jianwei Xue, and Jian'an Zhang</i>	
	Growth and mutation of <i>Escherichia coli</i> with suicide gene circuit based on quorum sensing	
	<i>Qi Gao, and Xuesong Zheng</i>	
	Proteomic analysis of <i>Bacillus subtilis</i> 168 transforming cis-propenylphosphonic acid to fosfomycin	
	<i>Fuhong Xie, Yapeng Chao, Jiaji Shi, Guoqing Zhang, Jing Yang, and Shijun Qian</i>	
	Regulation of isoprenoid pathway for enhanced production of linalool in <i>Saccharomyces cerevisiae</i>	
	<i>Mingxue Sun, Jidong Liu, Guocheng Du, Jingwen Zhou, and Jian Chen</i>	
	Construction of synthetic promoters for <i>Escherichia coli</i> and application in the biosynthesis of <i>cis,cis</i> -muconic acid	
	<i>Yuanqing Wu, Yuanyuan Zhang, Ran Tu, Hao Liu, and Qinhong Wang</i>	

<b>6:772</b>	Recombinant expression, purification and characterization of a novel DyP-type peroxidase in <i>Escherichia coli</i> <i>Liqun Wang, Alan K. Chang, Wenjie Yuan, and Fengwu Bai</i>	<i>Guojie Jin, Xiaobing Yang, Hongwei Shen, Yanan Wang, Zhiwei Gong, and Zongbao K. Zhao</i>
<b>7:914</b>	Promoter detection and transcriptional analysis of the spinosad biosynthetic gene cluster <i>Xiaozhou Feng, Weishan Wang, Xiaohui Ren, Xinli Liu, Xiangzhao Mao, and Kegian Yang</i>	<b>11:1590</b> Cloning and application of a novel hydroxylasein lovastatin conversion <i>Xiaoyu Huo, Bin Zhuge, Huiying Fang, Hong Zong, Jian Song, and Jian Zhuge</i>
<b>7:927</b>	Effects of mixed carbon sources on glucose oxidase production by recombinant <i>Pichia pastoris</i> <i>Yina Shen, Lei Gu, Juan Zhang, Jian Chen, and Guocheng Du</i>	<b>11:1599</b> Establishment of high frequency regeneration via leaf explants of 'Red Sun' kiwifruit ( <i>Actinidia chinensis</i> ) <i>Xupeng Zhao, Keming Luo, Yue Zhou, Xiuhua Wu, Li Yang, and Shaohu Tang</i>
<b>7:937</b>	Knockout of the ptsG gene in engineered <i>Escherichia coli</i> for homoethanol fermentation from sugar mixture <i>Tao Yan, Jinfang Zhao, Wenhui Gao, Jinhua Wang, Yongze Wang, Xiao Zhao, and Shengde Zhou</i>	<b>12:1753</b> Enhanced thermostability of <i>Rhizopus chinensis</i> lipase by error-prone PCR <i>Rui Wang, Xiaowei Yu, and Yan Xu</i>
<b>9:1234</b>	Increasing of product specificity of $\gamma$ -cyclodextrin by mutating the active domain of $\alpha$ -cyclodextrin glucanotransferase from <i>Paenibacillus macerans</i> sp. 602-1 <i>Ting Xie, Yang Yue, Binghong Song, Yapeng Chao, and Shijun Qian</i>	<b>Environmental Biotechnology</b>
<b>9:1245</b>	Cloning, expression and characterization of $\beta$ -glucosidase from <i>Aspergillus fumigatus</i> <i>Yi Xie, Haomiao Ouyang, Ribo Huang, Dong Chen, and Cheng Jin</i>	<b>2:161</b> Reductive degradation of chloramphenicol in bioelectrochemical system <i>Fei Sun, Aijie Wang, Qun Yan, and Guangsheng Zhang</i>
<b>9:1254</b>	Construction of an ethanologenic <i>Escherichia coli</i> strain expressing $\beta$ -glucosidase <i>Yao Zhang, Zichen Luo, Qiuqiang Gao, and Jie Bao</i>	<b>Agricultural Biotechnology</b>
<b>9:1268</b>	High-efficiency L-lactate production from glycerol by metabolically engineered <i>Escherichia coli</i> <i>Kangming Tian, Guiyang Shi, Fuping Lu, Suren Singh, and Zhengxiang Wang</i>	<b>1:78</b> Construction, expression and enzymatic activity analysis of <i>AUR1</i> eukaryotic expression vector of <i>Botrytis cinerea</i> <i>Yongchun Qiu, Xiaoping Liu, and Ping Gou</i>
<b>9:1278</b>	Enhanced biohydrogen production by homologous over-expression of <i>fnr</i> , <i>pncB</i> , <i>fdhF</i> in <i>Klebsiella</i> sp. HQ-3 <i>Shuyu Wang, Jun Wang, Li Xu, Jian Pi, Houjin Zhang, Yunjun Yan</i>	<b>2:189</b> Digital gene expression profiling analysis of the early adventitious shoot formation in <i>Arabidopsis thaliana</i> <i>Xingchun Wang, Zhirong Yang, Shuwei Zhang, Hongying Li, and Shengcai Li</i>
<b>9:1290</b>	Effects of knockout of 2,3-butanediol synthesis key enzyme genes on 1,3-propanediol production in <i>Klebsiella pneumoniae</i> <i>Xinkun Guo, Huiying Fang, Bin Zhuge, Hong Zong, Jian Song, and Jian Zhuge</i>	<b>2:203</b> Molecular cloning and spatiotemporal expression of an <i>APETALA1/FRUITFULL</i> -like MADS-box gene from the orchid ( <i>Cymbidium faberi</i> ) <i>Yunfang Tian, Xiuyun Yuan, Suhua Jiang, Bo Cui, and Jinle Su</i>
<b>11:1581</b>	$\beta$ -1,3-glucosidase assisted lipid extraction from <i>Rhodotorula toruloides</i>	<b>5:630</b> Expression of yeast acyl- $\Delta 9$ desaturase for fatty acid biosynthesis in tobacco <i>Jin'ai Xue, Xue Mao, Yongmei Wu, Zhirong Yang, Xiaoyun Jia, Li Zhang, Jiping Wang, Aiqin Yue, Xiping Sun, and Runzhi Li</i>
		<b>5:646</b> Analysis of three wheat cytoplasmic male sterile lines mitochondrial DNA by AFLP <i>Qidi Zhu, Xinbo Zhang, Ejaz M, Gaisheng Zhang, Huixue Che, Shuping Wang, Qilu Song, Shuling Yang, and Longyu Zhang</i>
		<b>6:785</b> Identification and expression analysis of WRKY transcription

factors in medicinal plant *Catharanthus roseus*

Zhirong Yang, Xingchun Wang, Jin'ai Xue, Lingzhi Meng,  
and Runzhi Li

### **Medical and Immunological Biotechnology**

- 1:87 Conserved W<sup>52</sup> led to reduced binding of glucanlike peptide 1 receptor  
*Weifeng Gao, and Juan Wang*
- 5:657 Expression, crystallization and crystallographic study of the 1<sup>st</sup> IgV domain of human CD96  
*Wenjing Jiang, Shuijun Zhang, Jinghua Yan, and Ning Guo*
- 5:664 Cell-ELA-based determination of binding affinity of DNA aptamer against U87-EGFRvIII cell  
*Yan Tan, Huiyu Liang, Xidong Wu, Yubo Gao,  
and Xingmei Zhang*
- 6:803 Enhanced SEC2 mutants and their superantigen activities  
*Guojun Zhang, Mingkai Xu, Jian Sun, Hongyi Li,  
Hongli Yang, Huiwen Zhang, and Chenggang Zhang*
- 6:814 DNA prime followed by protein boost enhances the protective efficacy against *Schistosoma japonicum* infection in mice  
*Bingchun Liu, Xinjie Cui, Xinsong Luo, and Xiao Wang*
- 7:946 miR-24 improves  $\beta$ -like globin gene expression through targeting *Sp1*  
*Yanni Ma, Bin Wang, Bei Gong, Fang Wang,  
Hualu Zhao, Junwu Zhang, and Jia Yu*
- 7:955 Anti-tumor efficacy of P53 with 9R cell-penetrating peptides  
*Yuan Liu, Rui Chen, Nan Zhang, Xianlong Ye, Yin Bai,  
Yuquan Wei, Guiping Ren, and Deshan Li*
- 7:965 Regulatory effect of 11 kDa protein of parvovirus B19 on NF- $\kappa$ B pathway in HeLa cells  
*Yanming Dong, Yu Huang, Jianxin Peng, and Yi Li*
- 7:974 Expression of human retinol-binding protein 4 in insect baculovirus system and preparation of its polyclonal antibody  
*Yuying Ren, Dan Chen, Yuzheng Guo, Hongna Shi,  
Juan Liu, Jingyang Ban, Yaning Liu, Xiaofang Wu,  
Weilong Wang, Hai Cheng, Dingfeng Li, Yong Liu,  
and Liliang Wang*
- 11:1607 Prokaryotic expression, purification and activity analysis of recombinant human serine protease inhibitor Hespintor Kazal Domain  
*Jie Feng, Yongzhi Lun, Yue Li, Huijuan Wu, Baoming Li,  
Ling Wei, Xiaoli Zhang, Xuelei Wang, and Qing Chi*

12:1765 Activation of anti-HBV immune activity by DNA vaccine via electroporation using heat shock proteins as adjuvant

*Yaxing Xu, Yanzhong Wang, Bao Zhao,  
Xiaojun Zhang, Hongxia Fan, Xinghui Li, and Songdong Meng*

12:1776 Expression of herpes simplex virus type 2 latency associated transcript ORF1 and its antiapoptotic function

*Fangbiao Lv, Huilan Yang, Feifei Zhong, Jianyong Fan,  
Liu Yanhua, and Ruidi Gao*

12:1786 Construction of an engineered M1GS-HCV/C<sub>141</sub> ribozyme and determination of its antiviral activity *in vitro*

*Xifang Li, Wenjun Zhang, Zhiwen Huang,  
Chengcheng Zhang, and Guifei Luo*

### **Tissue Engineering and Cell Cultivation**

- 2:214 Influence of fungal elicitor and macroporous resin on shikonin accumulation in hairy roots of *Arnebia euchroma* (Royle) Johnst  
*Pu Zhang, Fang Wang, and Chashan Zhu*
- 7:986 Effect of calcium on medium alkalization induced by salicylic acid in *Salvia miltiorrhiza* suspension cultures  
*Liancheng Liu, Cong Wang, Juan'e Dong, Hui Su,  
Zequn Zhuo, and Yaxin Xue*
- 11:1617 Stimulation of sphingosine-1-phosphate on cardiomyogenic differentiation of mesenchymal stem cells  
*Lili Jiang, Tianqing Liu, Kedong Song, Shui Guan,  
Xiangqin Li, and Dan Ge*
- 11:1629 Secretion and expression of vascular endothelial growth factor and interleukin-8 by SH-SY5Y human neuroblastoma cells  
*Zhigang Fan, Yu Lin, Qiping Huang, Meirong Luo,  
Qinghua Tian, Donghuo Zhong, Quanyi Feng, and Zezhi Wu*
- 12:1796 Epithelium constitution for esophageal tissue engineering using electrospinning technology  
*Ling Chen, Jingjing Lv, Xuechan Yu, Cheng Kang,  
and Yabin Zhu*

### **Methods in Biotechnology**

- 1:95 Anti-HBV effect of nucleotide analogues on mouse model of chronic HBV infection mediated by recombinant adeno-associated virus 8  
*Guojing Wang, Gang Wang, Xiaoyan Dong, Wenhong Tian,  
Jie Yuchi, Guochao Wei, Hong Meng, and Xiaobing Wu*
- 2:224 Optimized condition for protoplast isolation from maize, wheat

	and rice leaves	
	<i>He Sun, Zihong Lang, Li Zhu, and Dafang Huang</i>	
2:235	Novel qPCR strategy for quantification of recombinant adeno-associated virus serotype 2 vector genome-titer	
	<i>Qinglin Meng, Binbin Zhang, and Chun Zhang</i>	
4:510	Construction of directional T vector for gene cloning and expression	
	<i>Xing Zhong, Chao Zhai, Liang Chen, Xiaolan Yu, Sijing Jiang, Hong Yan, Dengxiang Yang, and Lixin Ma</i>	
4:520	Cell penetration of supercharged green fluorescent protein +36GFP as DNA carrier	
	<i>Hongyu Li, Yourong Fang, Haitao Yu, Ying Yu, and Hui Yan</i>	
5:672	Rapid detection of <i>Listeria monocytogenes</i> by immunomagnetic separation combined with selective medium	
	<i>Yiming Wen, Zhiqing Li, Jiyu Tong, and Junjian Xiang</i>	
5:681	Detection of food-borne rotavirus by molecular motor biosensor	
	<i>Jie Zhang, Meiling Xu, Xuan Wang, Yu Wang, Xiaojin Wang, Yan Liu, Dezhou Gu, Guangquan Chen, Peirong Wang, and Jiachang Yue</i>	
6:823	Key aromatic amino acids of anti-hepatoma activity on Parasporin-2	
	<i>Limin Liao, Shufang Lin, Ling Tian, Aiming Chen, and Yi Lin</i>	
6:836	Expression optimization and characterization of <i>Tenebrio molitor</i> antimicrobrial peptides TmAMP1m in <i>Escherichia coli</i>	
	<i>Reyihanguli Alimu, Xinfang Mao, and Zhongyuan Liu</i>	
7:998	Expression and purification of hPARP1 by baculovirus system	
	<i>Haiyan Zhou, Jun Ma, Xueli Yang, Xiaohai Gong, Qiuping Li, and Jian Jin</i>	
7:1006	Establishment of the methodology for quantifying lentiviral vector transcriptional read-through rate	
	<i>Jiapeng He, Yudan Fang, Fan Zhang, Fengqiang Sun, Juan Wang, and Jingzhi Zhang</i>	
7:1016	High activity level of miR-206 discovered in BHK21 cells by high-throughput miRNA activity profiling	
	<i>Wenhong Tian, Xiaoyan Dong, Gang Wang, Gang Zheng, Qingzhang Zhou, Zheyue Dong, and Xiaobing Wu</i>	
9:1301	Construct a molecular switch based on bacterial quorum sensing	
	<i>Zhiwei Zhang, and Sheng Wu</i>	
9:1313	Production and application of polyclonal antibody against mouse frataxin	
	<i>Shuangying Hao, Fangxia Xu, and Kuanyu Li</i>	
9:1323	Expression of <i>Araneus ventricosus</i> minor ampullate spidroin	
	<i>Zijiang Yang, Gefei Chen, and Qing Meng</i>	
9:1332	Construction and evaluation of efficient gene expression platforms in <i>Synechocystis</i> sp. strain PCC6803	
	<i>Fengxia Qi, Xiaoming Tan, and Xuefeng Lü</i>	
11:1644	Preparation and penetrating effect of the polyarginine-enhanced green fluorescence protein fusion protein	
	<i>Nan Zhang, Yin Bai, Jingzhuang Zhao, Xianlong Ye, Wenfei Wang, Guiiping Ren, Deshan Li, and Yan Jing</i>	
11:1654	Construction of eukaryotic expression vector of SPAG4L tagged with Myc and His	
	<i>Yanliang Chen, Zhi Zheng, Jianlong Wang, Xiaozhe Zhou, Yan Li, Meng Yang, Lihua Huang, and Xiaowei Xing</i>	
11:1663	Impacts on hepatitis B virus replication by gene engineering at apical loop region of capsid protein	
	<i>Jiangyan Chen, Rong Huang, Ying Tao, Yuan Huang, Yingying Luo, Ailong Huang, and Jieli Hu</i>	
12:1808	Stable and efficient expression of hepatitis B virus S antigen and preS1 epitope fusion protein (S/preS1) in CHO cells	
	<i>Zhenxi Yang, Shichong Li, Hong Liu, Miao Zhang, Lingling Ye, Yanzhuo Wu, Mingbo Xu, and Zhaolie Chen</i>	
12:1817	Angiogenic activity of alginate-graft-PEI/pVEGF complexes <i>in vivo</i>	
	<i>Zhonghui Huang, Wei Teng, Ying Chen, and Qinmei Wang</i>	
12:1828	A method to determine the structure of the complex of enzyme and its substrate using 6-phosphate-β-glucosidase at low temperature	
	<i>Wei Wang, Yiwei Liu, and Hongbin Li</i>	
12:1838	Effects of Ca <sup>2+</sup> on salicylic-acid induced biosynthesis of salvianolic acid B in young seedlings of <i>Salvia miltiorrhiza</i> Bunge	
	<i>Rongrong Cao, Bingyu Xing, Xiaolin Dang, Yaqin Yao, Liancheng Liu, and Juan'e Dong</i>	
12:1847	Deletion of marker gene in transgenic goat by Cre/LoxP system	
	<i>Chong Lan, Lina Ren, Min Wu, Siguo Liu, Guohui Liu, Xujun Xu, Jianquan Chen, Hengdong Ma, and Guoxiang Cheng</i>	

## **Biotechnological Breeding and Process Optimization**

- 1:107 Optimization of enzymatic preparation of glucose 1-phosphate by response surface methodology  
*Xiaojuan Wang, Li'e Jin, Fenfen Chang, and Guolan Yan*
- 1:111 Temperature-switched high-efficiency D-lactate production from glycerol  
*Kangming Tian, Li Zhou, Xianzhong Chen, Wei Shen, Guiyang Shi, Suren Singh, Fuping Lu, and Zhengxiang Wang*
- 1:115 Comparison of two types of cell cultures for preparation of sTNFRII-gAD fusion protein  
*Shigao Huang, Yuting Yin, Chunhui Xiong, Caihong Wang, Jianxin Lü, and Jimin Gao*
- 1:119 Improved lipid productivity of *Nannochloropsis* by heavy-ion irradiation mutagenesis  
*Zhiyao Wang, Yubin Ma, Runzhi Mu, Changjiang Sun, Dongyuan Zhang, and Yongfei Wang*
- 2:243 Optimization of biocontrol agent *Burkholderia pyrrocinia* strain JK-SH007 fermentation by response surface methodology  
*Hao Li, Jiahong Ren, and Jianren Ye*
- 4:532 Simplification and optimization of the preparation of *Escherichia coli* extract for cell-free protein expression  
*Xinjuan Guo, Chunshan Quan, Pengchao Zhao, Lina Wang, and Shengdi Fan*
- 4:536 Improved production of microbial lipids in the two-liquid phase fermentation system  
*Riming Yan, Zuozuo Ai, Ya Wang, Zhibin Zhang, Qinggui Zeng, and Du Zhu*
- 5:691 Cost-effective production of protein by using cellulose-binding domain fusion tag in *Corynebacterium glutamicum*  
*Zhijing Zhao, Huan Jiang, Wenting Shen, Liyan Song, and Guang Hu*
- 6:848 Screening and condition optimization of a strain for efficiently biotransformation of saponins in *Dioscorea zingiberensis* into diosgenin  
*Jiajia Zhang, Hui Li, Heng Li, Zhenming Lu, Jinsong Shi, and Zhenghong Xu*
- 6:853 Cloning, expression of phospholipase A<sub>1</sub> from *Serratia liquefaciens* and auto-induction fermentation by lactose  
*Jinlei Yan, Liang Zhang, Zhenghua Gu, Zhongyang Ding, and Guiyang Shi*
- 6:857 Response surface methodology to optimize marine microbe culture for producing fungi fibrinolytic compound  
*Tongwei Su, Bin Bao, Ting Yan, Chaoyan Zhang, Yongshi Bu, and Wenhui Wu*
- 7:1027 Synthesis of diisooctyl adipate catalyzed by lipase-displaying *Pichia pastoris* whole-cell biocatalysts  
*Na Zhang, Zi Jin, Ying Lin, Suiping Zheng, and Shuangyan Han*
- 11:1672 Comparison of three approaches to breed industrial *Saccharomyces cerevisiae* strains with improved ethanol tolerance  
*Qian Li, Xinqing Zhao, Jin-Soo Kim, and Fengwu Bai*
- 11:1676 Improving ergosterol production from molasses by *Saccharomyces cerevisiae*  
*Shaojie Wang, Xuena Guo, Xiuping He, and Borun Zhang*
- 11:1681 Improvement of fatty acid ethyl ester production by optimizing thioesterase expression  
*Liu Yang, Zhi Zhu, Aiqiu Liu, and Xuefeng Lü*
- 11:1687 Breeding of high 3 $\beta$ ,7 $\alpha$ ,15 $\alpha$ -trihydroxy-5- androsten-17-one transforming strains and their conversion process optimization  
*Hui Li, Mingjie Zhang, Xiaomei Zhang, Heng Li, Jinsong Shi, and Zhenghong Xu*
- 11:1692 Mutating *Escherichia coli* by atmospheric and room temperature plasmas for succinic acid production from xylose  
*Qing Wan, Weijia Cao, Changqing Zhang, Rongming Liu, Liya Liang, Kequan Chen, Jiangfeng Ma, and Min Jiang*
- 11:1696 Effect of overexpressing isocitrate lyase on succinate production in *ldh*<sup>-1</sup> *Corynebacterium glutamicum*  
*Chao Yang, Ning Hao, Ming Yan, Lu Gao, and Lin Xu*
- 11:1701 Relationship between mycelium morphology and laccase production of *Pleurotus ferulaceus* in submerged cultivation  
*Youzhi Chen, Lu Wang, Lin Peng, Zhongyang Ding, Liang Zhang, Zhenghua Gu, Guiyang Shi and Kechang Zhang*
- 11:1706 Improved extraction of solanesol from tobacco waste by enzymatic cell wall breaking  
*Xingmin Wang, Yuwen Zhang, Guizhi Zhang, and Zhongyi Yin*
- 12:1855 Effect of co-expression of nicotinic acid phosphoribosyl transferase and pyruvate carboxylase on succinic acid production in *Escherichia coli* BA002  
*Weijia Cao, Dongmei Gou, Liya Liang, Rongming Liu, Kequan Chen, Jiangfeng Ma, and Min Jiang*

- 12:1860** Effects of pH and oxygen supply on production of 2,3-butanediol from biodiesel-derived glycerol by *Bacillus amyloliquefaciens*  
*Taowei Yang, Zhiming Rao, Xian Zhang, Meijuan Xu, and Zhenghong Xu*
- 12:1865** Effects of nitrogen sources on growth density, lipid yield and eicosapentaenoic acid of *Nannochloropsis oculata*  
*Xianghong Lu, QiuHong Zhang, Meizhen Lu, Xiao Dou, Chenlei Huang, Junqian Jia, and Jianbing Ji*
- 12:1870** Identification of *Bacillus subtilis* THY-7 and high titer optimization for the blend-biosurfactant of lipopeptide and glycolipid  
*Hao Liu, Huan Yang, Xue Li, Xu Li, Mian Duanmu, and Huimin Yu*
- 12:1875** Succinic acid production with *Escherichia coli* AFP111 recovered from fermentation  
*Mingke Wu, Rongming Liu, Liya Liang, Jiangfeng Ma, Kequan Chen, and Min Jiang*
- 12:1880** Effect of cell culture conditions on antibody heterogeneity  
*Xujie Duan, Rui Liu, Weitao Xu, Tong Ren, and Houyong Luo*

### **Meeting Report**

- 2:247** Bacteriophages and probiotics—alternatives to antibiotics  
*Guangqian Pei, Chuanyin Han, Taoxing Shi, and Yigang Tong*

(The End)