

Contents

Part V Biotechnology Applications

- 137 Molecular Cloning and Expression of the β -Galactosidase Gene from *Bifidobacterium longum* LL04 in *Escherichia coli*.** 1279
Fanzhu Li, Xian Zhang and Seongil Lim
- 138 Identification of Symbiotic or Epiphyte Microbe F17 from *Pinctada Fucata* and Analysis of Its Main Metabolites by GC-MS.** 1291
Yanyan Wu, Yan Zhang, Laihao Li, Xianqing Yang, Wei Shi and Zhengyi Shao
- 139 Construction of Genomic Expression Library Vaccines Against Avian *Pasteurella Multocida* and Detection of the Immune Efficacy.** 1301
Qiang Gong, Cuili Qin and Ming Cheng
- 140 Expression of Recombinant Human Bone Morphogenetic Protein 2 in Insect Cells, Purification and Activity Analysis . . .** 1309
Wen Chu, Shenheng Luo, Lihong Xu, Minhui Long and Aipo Diao
- 141 Biotechnology of Azobenzene-Modified DNA and RNA** 1317
Xingguo Liang and Jing Li
- 142 Evaluation of a Whole Genome Amplification Method Based on Improved Ligation-Mediated PCR** 1333
Xiaoming Pan, Weikai Chen, Xiushuang Jia, Ping Dong and Xingguo Liang

143	Isolation and Identification of a Bacterial Strain with Pullulanase Activity and the Cloning of the Pullulanase Gene	1345
	Guixiu Dong, Tao Xia, Yongqian Qiu, Xiaoliang Si, Yiyu Liu, Pingping Yang, Xiangzhao Mao and Lizhong Guo	
144	Study on ^{60}Co-Ray Irradiation Mutation of <i>Bacillus subtilis</i> natto	1353
	Yufeng Xie and Yingliang Ge	
145	Effects of Different Processing Methods on Oyster DNA	1361
	Ping Dong, Ran An, Xiushuang Jia, Dong Han and Xingguo Liang	
146	Design and Synthesis of Resveratrol Analogs	1373
	Yuanmou Chen, Fei Hu, Yinghao Gao, Na Ji, Weizhu Liu and Erbing Hua	
147	Elongation of Trinucleotide Repeats by DNA Polymerase	1383
	Yang Wang, Ping Dong and Xingguo Liang	
148	Hydroxylation of Dehydroepiandrosterone by <i>Penicillium decumbens</i> ph-13	1393
	Song Zhang, Peihui Liu, Lin Zhao and Xinli Liu	
149	Preparation and Characterization of Cross-Linked Enzyme Aggregates of Amyloglucosidase	1399
	Jiandong Cui and Yanan Zhang	
150	An Extraction Method Suitable for Two-Dimensional Electrophoresis of Low-Abundant Proteins from Ginseng Roots	1407
	Rui Jiang, Liwei Sun, Rui Ma, Xiujuan Lei and Daqing Zhao	
151	Purification of Alkaline Pectinase in Engineering <i>Bacillus subtilis</i>	1419
	Ming Li, Xin Sun, Liying Zhou, Hongxin Wang, Dongxia Li, Shuya Wang and Fuping Lu	
152	In situ Preparation and Characteristics of a New Water-Soluble Heme Iron Via Hemin-Arginate Coacervation	1431
	Wenhang Wang, Ting Liu, Ying Zhang, Rujie Chen and Anjun Liu	

153	Enzymatic Extraction and Characteristics of Collagen Fibers from Cattle Skin	1441
	Wenhang Wang, Ke Zhao, Wei Ren, Ting Liu and Ying Zhang	
154	Detection of DNA Target with Highly Enhanced Specificity by Self-Circularization Rolling Circle Amplification.	1449
	Xingyu Wang, Xiaoliang Wang, Ping Dong, Masatomo Suzuki, Hiroyuki Asanuma and Xingguo Liang	
155	Effect of Proteinase a Propeptide Deletion on Its Enzyme Activity in <i>Saccharomyces cerevisiae</i>	1459
	Deguang Wu, Yefu Chen, Jun Lu, Yanan Qi, Cuiying Zhang and Dongguang Xiao	
156	Corncob Residue Pretreatment for 2,3-Butanediol Production by Simultaneous Saccharification and Fermentation.	1469
	Xiaopei Peng, Cuiying Zhang, Yujie Tian, Xuewu Guo, Yanwen Liu and Dongguang Xiao	
157	The Comparison on the Genotype of <i>idh-1</i> Between <i>Paralichthys olivaceus</i> and <i>Scophthalmus maximus</i>	1481
	Zhiyi Qiao, Shi Dong, Jinhui Sun, Yue Pei and Qi Wang	
158	Production of Natural Chitosan from Xylose by <i>Actinomucor elegans</i> Culture	1489
	Xi Wang, Hua Zhao, Xin Feng and Jing Yang	
159	Inhibition of α-Amylase Activities by Extracts of Chinese Yam	1499
	Sai Qu, Liming Zhang, Xiaobian Zhang and Zhengjun Li	
160	<i>VvpGLT</i>, a Grapevine Gene Encoding for a Plastidic Localized Glucose Transporter	1507
	Lei Zeng, Yanjie Yi, Huaijian Tang and Jinshui Wang	
161	Preparation and Characterization of New GA Carboxylic Acid Derivatives	1517
	Caiju Zhou, Yong-En Guo, Laitao Zhang, Baoguo Wang, Longjiang Chen and Tong-Cun Zhang	

162	Separation and Purification of Hyaluronic Acid from Fermentation Broth	1523
	Yunshuang Wang, Jian Zhang and Hao Liu	
163	In Vitro Cytotoxicity of the Bile Acids and Bile Acid Derivatives	1531
	Xiangzheng Hu, Hongjian Zhou, Guangzhen Song, Anjun Liu and Lixia Wang	
164	Studying on Extraction of Betulin from the White Birch and Synthesis of Betulinic Acid	1541
	Tong-Cun Zhang, Weiwei Xu, Nan Wang, Xuegang Luo, Jing Wang and Xiangzheng Hu	
165	Research on the Optimum Conditions and the Effect of Antioxidant Peptide from Scallop Protein	1551
	Yuan Liu, Jian Wang, Zhisheng Zhang and Jie Wang	
166	Tracing the Origin of Pigment in Broilers by Stable Nitrogen and Carbon Isotopes Analysis	1561
	Huiwen Wang, Fengmei Sun and Shuming Yang	
167	Vascular Endothelial Growth Factor Induces Bone Marrow-Derived Mesenchymal Stem Cells Differentiation into Endothelial Cells	1567
	Nan Wang, Rui Zhang, Shuijing Wang, Jianjie du, Yanyang Tang and Tong-Cun Zhang	
168	Fasting Effects on the Content of Liver and Muscle Glycogen in Sparrow	1575
	Xingjun Xu, Shuli Shao, Huaiyong Li, Ziqiang Wang, Guangjun Zhang, Chenyang Jin, Yabo Sun and Shijie Zhao	
169	Antibacterial Activity of Polyprenols and Other Lipids from <i>Ginkgo biloba</i> L. Leaves	1581
	Ran Tao, Chengzhang Wang and Zhenwu Kong	
170	Effect of <i>Lactococcus lactis</i> subsp. on Production of Pigment and Citrinin by <i>Monascus</i>	1591
	Shichao Wang, Shuxin Zhao, Hongxia Mu, Fengyun Sun and Peng Chen	

171	Prediction of NH_4^+ Concentration During the Temperature Triggered Glutamate Fermentation Using At-Line Near-Infrared Spectroscopy	1601
	Jingbo Liang, Dalong Zhang, Xuan Guo, Qingyang Xu, Xixian Xie, Chenglin Zhang and Ning Chen	
172	Studies on Protein Extraction from <i>Caragana korshinskii</i> Kom. Using Acetone Precipitation Method	1609
	Cheng Zhong, Zhao Zhou, Rui Wang, Peipei Han and Shiru Jia	
173	Signaling Pathways in Cardiac Hypertrophy	1617
	Man Li, Nan Wang, Wenjing Liu, Xin Zhi and Tong-Cun Zhang	
174	Progress in Heparin-Functionalized Biomaterials.	1627
	Yingfeng Wu, Juan Li, Feipeng Zhu and Hao Wang	
175	Identification of an Antifungal <i>Bacillus</i> Strain and Studies on Its Antifungal Active Ingredients	1637
	Yingde Shen, Ruibin Liu, Yuehua Chen and Jun Cai	
176	Enrichment of Flavonoids and Removal of Organic Acid by Treatment of Weak-Base Anion Resins.	1645
	Yuping Zhao, Shuyang Sun, Zuli Sun, Wenguang Jiang, Jianrong Yang, Pu Song, Xiangping Zheng and Tiantian Tian	
177	Study on the Decolourization Methods of Crude Alkaline Protease	1657
	Hongbin Wang, Zhijia Lv, Jing Wang and Fuping Lu	
178	Research Progress of the Polysaccharide O-Acetylated Pustulan-Type Glucans from <i>Umbilicariaceae lichens</i>	1665
	Junjie Sun, Xinli Wei and Jiangchun Wei	
179	Effects of UV-B Radiation and NaCl Stress on the Protein Expression in <i>Nostoc flagelliforme</i>	1671
	Lei Yang, Haifeng Yu and Hongxian Lv	
180	Study on Antibacterial Activity of <i>Radix isatidis</i> Extracts and Preliminary Investigation of Their Antibacterial Mechanism	1681
	Lin Tian and Zhan Wang	

181	Optimization Research of Sufu by Enzymatic Accelerated Maturation	1689
	Jianming Wang, Feng Hu, Ping Li, Changsheng Qiao, Yuan Geng and Hengxing Yang	
182	Optimization of the Electroporation Conditions for DNA Transformation of <i>Staphylococcus carnosus</i>	1699
	Qiang Gao, Mengxiao Wang, Changyan Yu, Lin Huang, Xiu Zheng and Yan Zhu	
183	Neutralization of the Residual Alkaline Solution of Chitosan with CO₂ Gas.	1709
	Ainan Guo, Shiru Jia, Yujie Dai, Peipei Han, Guojuan Xu, Xintong Zheng and Yanyan Li	
184	Study on Method for Cooking Wheat Straw Pulp at Atmosphere by Microwave Radiation Mixed-Alkali Method	1717
	Yu Deng and Zhimin Zhang	
185	Biologic Chromatography for Purifying Filamentous Fungi Contaminated with Bacteria	1727
	Jianping Zhang and Feifei Sun	
186	Cross-Linked Enzyme Aggregates of β-Galactosidase from Different Source by Dialdehyde Starch as Cross-Linker	1733
	Kang Wang, Yang Gao, Zhang Wang and Guangying Meng	
187	Research Development on Vanadium-Dependent Haloperoxidases in Marine Algae	1741
	Tao Wang, Yong-chao Lu, Dong-mei Cao, Shu-bao Gao and Yu-shan Zhang	
188	The Cells of <i>Gluconacetobacter xylinus</i> Response to Exposure	1749
	Xintong Zheng, Cheng Zhong, Miao Liu, Ainan Guo, Yanyan Li and Shiru Jia	
189	Purification and Characterization of Cholinesterase from Duck Plasma	1759
	Chang Liu and Fusheng Chen	

190	Study on the Sensitivity of Two-Line Hybrid Rice's Self-Fruitful Rates on Temperature Changes: A Numerical Study	1771
	Zhiwei Wang, Qingdai Liu and Zetian Hua	
191	The Changes in Physicochemical Properties of Lacquer Wax by Physical Adsorption and UV Light	1777
	Yuan-Feng He, Cheng-Zhang Wang, Yan-he Dong, Jian-Zhong Ye, Hao Zhou and Hong-Xia Cheng	
192	The Effect of Ethanol on Steroid Δ^1-Dehydrogenase from <i>Arthrobacter simplex</i>	1789
	Jianmei Luo, Yongxin Cheng, Lina Liu, Jianfeng Wang, Yu Zheng, Yanbing Shen and Min Wang	
193	Rapid Assessment of Cell Viability of <i>Lactobacillus casei</i> after Freeze-Drying by Measurement Cell Membrane Using Flow Cytometry and Fluorescence Probes	1799
	Lin Wang, Xiaohui Liu and Jinghua Yu	
194	Molecular Cloning, Characterization and Expression Analysis of a Gene Encoding Hydroxyphenylpyruvate Reductase Involved in Rosmarinic Acid Biosynthesis Pathway from <i>Perilla frutescens</i>	1807
	Xiaoling Lu, Lei Hao, Fang Wang and Chen Huang	
195	Design, Synthesis, and Biological Evaluation of Nedd4 E3 Ubiquitin Ligase Small Molecule Inhibitors	1821
	Xiaoli Fu, Jie Chu, Yuyin Li, Shasha Wang, Jie Zhou, Yujie Dai and Aipo Diao	
196	Improvement of Electrotransformation Efficiency by Lysozyme Treatment in <i>Cronobacter sakazakii</i>	1829
	Xinjun Du, Fei Wang, Yue Ge, Lu Meng and Shuo Wang	
197	Multiplex Plasmid Engineering (MPE) for Fine Tuning the Expression Level of Red Fluorescent Protein	1837
	Qun Gu, Yifan Li, Zhenquan Lin, Tao Chen, Xueming Zhao and Zhiwen Wang	

198	Study on the Influencing Conditions in the Electro-Transformation Efficiency of <i>Bacillus licheniformis</i> ATCC14580	1845
	Yihan Liu, Yanjing Xu, Shuai Fan, Jiaxin Bo, Jianling Wang and Fuping Lu	
199	Determination of Folic Acid in Serum by SPE and High Performance Liquid Chromatography with Photochemical Spectrofluorimetry	1855
	Caiju Zhou, Haijie Hu and Tong-Cun Zhang	
200	Design and Synthesis of 2-Arylbenzothiazole Analogues as Novel SIRT1 Activators	1863
	Shaolong Jia, Fei Hu, Yinghao Gao, Qiuyue Wang, Yingying Wang and Erbing Hua	
201	UV-B Irradiation Regulates Apoptosis in Yeast	1869
	Kun Chen, Nailong Liang, Jing Yang and Hua Zhao	