

全国中文核心期刊 中国科技核心期刊 中国农业核心期刊  
美国化学文摘收录期刊 RCCSE中国核心学术期刊 (A)

ISSN 1671-7236  
CN 11-4843/S

# 中国畜牧兽医

CHINA ANIMAL HUSBANDRY &  
VETERINARY MEDICINE

第44卷 第2期  
Vol. 44 No.2

2017



主管：中华人民共和国农业部  
主办：中国农业科学院北京畜牧兽医研究所

# 中国畜牧兽医

ZHONGGUO XUMU SHOUYI

第 44 卷 第 2 期 2017 年 2 月

## 目 次

### · 生 物 技 术 ·

- 靶向 *TLR9* 基因 siRNA 的筛选及其对 BHV-1 增殖规律的影响 ..... 呼凤丽,徐丽媛,张志飞,等(303)
- 口蹄疫 O 型病毒二温式 RT-PCR 检测方法的建立及初步应用 ..... 姚怀兵,赵 毅,刘 宏,等(311)
- 山羊痘病毒 *TK* 基因功能缺失对其增殖的影响 ..... 李继东,才学鹏(319)
- 广东新型鸭呼肠孤病毒  $\sigma B$  蛋白基因克隆及序列分析 ..... 黄雯晶,梁国智,梅敏敏,等(327)
- 珠江上游地区蚊虫乙型脑炎病毒核酸检测及 *PrM* 和 *E* 基因序列分析 ... 吕顺燕,王静林,李 楠,等(336)
- 猪流行性腹泻病毒环介导等温扩增检测方法的建立及应用 ..... 罗亚坤,梁 琳,王 静,等(344)
- 弓形虫不同发育时期棒状体颈部蛋白 5 基因的表达研究 ..... 何 帅,周春雪,朱兴全,等(350)
- 牛 *GUCY1A3* 和 *SFXN1* 基因的克隆及生物信息学分析 ..... 靳聪飞,梁婷玉,刘新峰,等(357)
- 猪巨细胞病毒福建株 *DPOL* 基因的克隆及序列分析 ..... 陈如敬,陈 铖,吴学敏,等(365)
- 绵羊肺炎支原体 p60 蛋白 N 端与 C 端的表达及其免疫学特性研究 ..... 麻昌姣,郑佳琪,黄海碧,等(371)
- 猪流行性腹泻病毒间接 ELISA 检测方法的建立 ..... 王丽珍,罗桂芳,张艳萍,等(377)
- 恩拉霉素生物检测方法的改进 ..... 许铭玉,宋淑婷,张 莹,等(384)
- 葛根对奶牛脂肪肝细胞生化指标的影响 ..... 刘晓坤,田梦悦,秦建华,等(391)
- 口蹄疫表位疫苗的研究进展 ..... 李世芳,邵军军,常惠芸(396)

### · 生 理 生 化 ·

- 猪圆环病毒 2 型诱导小鼠体内免疫细胞氧化胁迫模型的建立 ..... 杨 剑,尹 丹,罗文涓,等(402)
- 无血清条件下 UC-MSCs 和 BMECs 共培养对 IGF- I 表达的影响 ..... 赵艳坤,邵 伟,雒诚龙,等(411)
- 马骨髓间充质干细胞向软骨细胞的诱导分化 ..... 刘 乐,王彦妮,庞玉娟,等(417)

### · 动物营养与饲料科学 ·

- 添加黄秋葵对儋州鸡生长性能、屠宰性能、肉品质及消化酶活性的影响 ... 张海文,管庆丰,吴科榜,等(425)
- AFB<sub>1</sub> 降解剂对肉鸡生长性能、养分代谢及 AFB<sub>1</sub> 在体内残留的影响 ..... 左瑞雨,王秋文,常 娟,等(432)
- 响应面法优化益生菌 FGM 发酵黄芪多糖的提取工艺 ..... 边亚彬,张景艳,侯艳华,等(440)
- 黑丝羽乌骨鸡精液 DMA 颗粒冷冻技术研究 ..... 黄 琳,孙 麋,朱立军,等(447)
- 育肥羊饲喂全混合日粮条件下瘤胃固相食糜外流速度及其有效降解率的评定  
..... 高新梅,郑 猛,牛 露,等(456)

|                                              |                    |
|----------------------------------------------|--------------------|
| 发酵北苍术对断奶仔猪血清免疫指标和生化指标的影响 .....               | 武洪志,王志龙,许灵敏,等(463) |
| 能量水平对舍饲育肥牦牛生长性能、屠宰性能、瘤胃发酵参数和瘤胃微生物数量的影响 ..... | 王斌星,陈光吉,郭春华,等(469) |
| 益生菌发酵饲料对仔猪生长和免疫功能影响的研究进展 .....               | 张秀林,魏小兵,欧长波,等(476) |
| 植物乳杆菌对致病性肠炎沙门氏菌感染蛋鸡的生产性能及其蛋、粪含菌量的影响 .....    | 杨亚晋,郭爱伟,张颖,等(482)  |

## · 遗 传 繁 育 ·

|                                         |                    |
|-----------------------------------------|--------------------|
| 不同产羔数绵羊性腺轴比较转录组研究 .....                 | 付绍印,何小龙,王标,等(488)  |
| 基于 RNA-Seq 技术的京海黄鸡卵巢组织转录本预测及新基因挖掘 ..... | 董新龙,张向前,韩昆鹏,等(497) |
| 梅山猪与杜洛克猪中等卵泡差异表达基因的鉴定 .....             | 赵志超,黄涛,杨飞,等(505)   |
| 程序化冷冻前后小鼠正常孵化囊胚和休眠胚胎中 C3 基因表达的研究 .....  | 刘迪,倪和民,顾美超,等(514)  |

## · 预 防 兽 医 ·

|                                                |                    |
|------------------------------------------------|--------------------|
| 6 株猪源芽孢杆菌的分离鉴定及其益生性研究 .....                    | 钟罗华,邓舜洲,张文波,等(521) |
| 一株羊源致病性尿肠球菌的分离鉴定及耐药性分析 .....                   | 刘永安,李学瑞,周建华,等(530) |
| 不同品种猪感染 HP-PRRSV 后肺组织间 PRRSV 受体基因差异表达的研究 ..... | 康润敏,姬高升,曾凯,等(538)  |
| 野生动物用狂犬病口服疫苗复合免疫佐剂与诱饵的筛选及其对免疫效果的影响 .....       | 程瑶,毛丽萍,文兆海,等(546)  |
| 鸭 1 型甲肝病毒亚型 VP1 蛋白单克隆抗体的研制及鉴定 .....            | 傅秋玲,刘伟,黄瑜,等(554)   |
| 川西北红原县和理塘县牦牛 4 类体内寄生虫感染的研究 .....               | 计慧姝,罗光荣,肖敏,等(561)  |

## · 基 础 兽 医 ·

|                                   |                             |
|-----------------------------------|-----------------------------|
| 莱菔硫烷对染镉小鼠睾丸间质细胞抗氧化功能影响的研究 .....   | 姜丽莹,何剑斌,郑伟萍,等(568)          |
| 基于紫外指纹图谱的公英青蓝合剂质量研究 .....         | 潘春晖,杨红玉,张焯,等(578)           |
| 现代商品仔猪传代肾细胞株的培育与应用研究 .....        | 胡鸿惠,吴静波,黄健强,等(586)          |
| 中药常山散的体外抑菌作用研究 .....              | 王玲,郭志廷,杨峰,等(594)            |
| 阿魏根粗多糖对鸡脾脏和外周血淋巴细胞体外增殖作用的影响 ..... | 德力拜尔,赛福丁·阿不拉,依不拉音·木沙,等(601) |
| 同源异型框基因 <i>Prrx</i> 功能的研究进展 ..... | 徐小桐,张昕,杜娟,等(607)            |

## · 临 床 兽 医 ·

|                       |                   |
|-----------------------|-------------------|
| 养殖锦鲤鲤鱼浮肿病的检测与鉴定 ..... | 徐立蒲,王小亮,张文,等(613) |
|-----------------------|-------------------|

# CHINA ANIMAL HUSBANDRY & VETERINARY MEDICINE

Vol. 44 No. 2 (Feb. 2017)

## SELECTED CONTENTS

- Screening of siRNA targeted for *TLR9* gene and its effect on the proliferation profile of BHV-1  
..... HU Feng-li, XU Li-yuan, ZHANG Zhi-fei, et al(303)
- Development and application of two-temperature RT-PCR for detection of type O foot and mouth  
disease virus ..... YAO Huai-bing, ZHAO Yi, LIU Hong, et al(311)
- Effect on proliferation of goat pox virus of *TK* gene deficiency  
..... LI Ji-dong, CAI Xue-peng(319)
- Cloning and sequence analysis of  $\sigma B$  protein genes of new-type duck reovirus isolated from Guangdong  
..... HUANG Wen-jing, LIANG Guo-zhi, MEI Min-min, et al(327)
- Nucleotide detection of mosquito Japanese encephalitis virus and sequence analysis of *PrM* and *E* genes  
in upper Pearl River region ..... LV Shun-yan, WANG Jing-lin, LI Nan, et al(336)
- Establishment and application of loop-mediated isothermal amplification for rapid detection of porcine  
epidemic diarrhea virus ..... LUO Ya-kun, LIANG Lin, WANG Jing, et al(344)
- Study on expression of *Toxoplasma gondii* rhoptry neck protein 5 gene in different developmental stages  
..... HE Shuai, ZHOU Chun-xue, ZHU Xing-quan, et al(350)
- Cloning and bioinformatics analysis of *GUCY1A3* and *SFXN1* genes in cattle  
..... JIN Cong-fei, LIANG Ting-yu, LIU Xin-feng, et al(357)
- Cloning and sequencing analysis of *DPOL* gene of porcine cytomegalovirus  
..... CHEN Ru-jing, CHEN Chen, WU Xue-min, et al(365)
- Expression of N-terminal domain and C-terminal domain of *Mycoplasma ovipneumoniae* p60 protein and  
initial identification on their immunologic activity  
..... MA Chang-jiao, ZHENG Jia-qi, HUANG Hai-bi, et al(371)
- Establishment of indirect ELISA detection method for porcine epidemic diarrhea virus  
..... WANG Li-zhen, LUO Gui-fang, ZHANG Yan-ping, et al(377)
- Improved biotin detection method of enduracidin mold  
..... XU Ming-yu, SONG Shu-ting, ZHANG Ying, et al(384)
- Effects of *Pueraria* on biochemical indexes of fatty liver hepatocytes in dairy cows  
..... LIU Xiao-kun, TIAN Meng-yue, QIN Jian-hua, et al(391)

Research progress on the epitope-based vaccine against foot and mouth disease

..... LI Shi-fang,SHAO Jun-jun,CHANG Hui-yun(396)

Establishment of model for oxidative stress in mice immune cells induced by PCV2 *in vivo*

..... YANG Jian,YIN Dan,LUO Wen-juan,et al(402)

Effect of umbilical cord mesenchymal stem cells and bovine mammary gland epithelial cells co-culture under the serum-free condition on expression of IGF- I

..... ZHAO Yan-kun,SHAO Wei, LUO Cheng-long,et al(411)

Study on inducing equine bone marrow mesenchymal stem cells differentiated into chondrocytes

..... LIU Le, WANG Yan-ni, PANG Yu-juan,,et al(417)

Effects of adding okra on growth performance,slaughter performance,meat quality and digestive enzymes activity of Danzhou chickens .....

ZHANG Hai-wen,GUAN Qing-feng,WU Ke-bang,et al(425)

Effect of AFB<sub>1</sub>-degrading agent on growth performance,nutrients metabolism and AFB<sub>1</sub> residues in broiler

..... ZUO Rui-yu, WANG Qiu-wen, CHANG Juan,et al(432)

Optimization of polysaccharides extraction from *Astragalus membranaceus* fermented by FGM strain with response surface method .....

BIAN Ya-bin,ZHANG Jing-yan,HOU Yan-hua,et al(440)

Study on technology of Black Silkies chicken semen freezing by DMA pellet

..... HUANG Lin,SUN Ao,ZHU Li-jun,et al(447)

Measurement of rumen digesta passage rate and effective degradation of finishing lambs feeding the total mixed ration .....

GAO Xin-mei,ZHENG Meng,NIU Lu,et al(456)

Effects of fermented *Atractylodes chinensis* on serum immune and biochemical indexes of weaned piglets

..... WU Hong-zhi,WANG Zhi-long,XU Ling-min,et al(463)

Effects of energy level on growth performance,slaughter performance,ruminal fermentation parameters and rumen microorganisms number in house-fed yaks

..... WANG Bin-xing,CHEN Guang-ji,GUO Chun-hua,et al(469)

Research progress of probiotics fermented feed effects on growth performance and immune function in piglets .....

ZHANG Xiu-lin, WEI Xiao-bing,OU Chang-bo,et al(476)

Effects of *Lactobacillus plantarum* on production performance,egg and feces bacteria content of

*Salmonella enteric*-infected hens .....

YANG Ya-jin,GUO Ai-wei,ZHANG Ying,et al(482)

Comparative transcriptome research of gonadal axis for different lambing number of sheep

..... FU Shao-yin,HE Xiao-long,WANG Biao,et al(488)

Prediction of novel transcripts and discovery of novel genes on RNA-Seq analysis of Jinghai Yellow chicken ovary .....

DONG Xin-long, ZHANG Xiang-qian, HAN Kun-peng,et al(497)

- Identification of differentially expressed genes in medium-sized ovarian follicles between Meishan and Duroc sows ..... ZHAO Zhi-chao, HUANG Tao, YANG Fei, et al(505)
- Study on the expression of C3 gene on mouse normal hatched blastocysts and dormant embryos before and after cryopreservation ..... LIU Di, NI He-min, GU Mei-chao, et al(514)
- Isolation and identification of six strains of swine *Bacillus* and their probiotic research ..... ZHONG Luo-hua, DENG Shun-zhou, ZHANG Wen-bo, et al(521)
- Isolation, identification and drug resistance analysis of pathogenic *Enterococcus faecium* of sheep ..... LIU Yong-an, LI Xue-rui, ZHOU Jian-hua, et al(530)
- Study on differential expression of PRRSV receptor genes in lung tissues of different breeds of pig infected with HP-PRRSV ..... KANG Run-min, JI Gao-sheng, ZENG Kai, et al(538)
- Screening of immunoadjuvant compound and bait of animal rabies oral vaccine and their influence on immune effects ..... CHENG Yao, MAO Li-ping, WEN Zhao-hai, et al(546)
- Development and identification of monoclonal antibodies against VP1 protein of DHAV-1a ..... FU Qiu-ling, LIU Wei, HUANG Yu, et al(554)
- Study on infection of 4 kinds of internal parasites in yaks in Hongyuan and Litang county of Northwest Sichuan province ..... JI Hui-shu, LUO Guang-rong, XIAO Min, et al(561)
- Research on the antioxidant function of sulforaphane on the leydig cells of cadmium exposed mice ..... JIANG Li-ying, HE Jian-bin, ZHENG Wei-ping, et al(568)
- Study on the UV fingerprint of Gongyingqinglan mixture ..... PAN Chun-hui, YANG Hong-yu, ZHANG Xuan, et al(578)
- Study on cultivation research and preliminary application of modern commercial piglet kidney cell strain ..... HU Hong-hui, WU Jing-bo, HUANG Jian-qiang, et al(586)
- Bacteriostatic test *in vitro* of traditional Chinese medicine *Radix dichroa* powder on common pathogens ..... WANG Ling, GUO Zhi-ting, YANG Feng, et al(594)
- Effects of polysaccharides from *Ferula sinkiangensis* root on proliferation of chicken peripheral lymphocyte and spleen lymphocyte *in vitro* ..... DELIBAIER, SAIFUDING • Abula, YIBULAYIN • Musha, et al(601)
- Research progress on functions of homeobox gene *Prrx* ..... XU Xiao-tong, ZHANG Xin, DU Juan, et al(607)
- Testing and identification of carp edema virus disease in cultured koi ..... XU Li-pu, WANG Xiao-liang, ZHANG Wen, et al(613)

# 《中国畜牧兽医》编委会

顾问：张子仪 院士

主任委员：秦玉昌

委员：（按姓氏笔画排序）

|         |         |         |     |
|---------|---------|---------|-----|
| 印遇龙 院士  | 任继周 院士  | 沈建忠 院士  |     |
| 麦康森 院士  | 张改平 院士  | 夏咸柱 院士  |     |
| 马月辉 文 杰 | 王凤来 王文杰 | 王加启 王立贤 | 王楚端 |
| 田见晖 刘国世 | 刘建新 朱化彬 | 朱鸿飞 吕于明 | 张文广 |
| 张军民 张宏福 | 张家骅 李 奎 | 李发弟 李俊雅 | 李胜利 |
| 杨汉春 陈化兰 | 陈继兰 单安山 | 罗海玲 范红结 | 曾林森 |
| 赵茹茜 秦贵信 | 贾玉山 郭 勇 | 郭 鑫 崔尚金 | 曹兵海 |
| 储明星 童光志 | 韩雪松 熊本海 | 谯仕彦     |     |

---

## The Editorial Board of CHINA ANIMAL HUSBANDRY & VETERINARY MEDICINE

Editorial Advisers: ZHANG Ziyi

Chairman: QIN Yuchang

|                     |                |                |              |
|---------------------|----------------|----------------|--------------|
| Members: YIN Yulong | REN Jizhou     | SHEN Jianzhong |              |
| MAI Kangsen         | ZHANG Gaiping  | XIA Xianzhu    |              |
| MA Yuehui           | WEN Jie        | WANG Fenglai   | WANG Wenjie  |
| WANG Jiaqi          | WANG Lixian    | WANG Chuduan   | TIAN Jianhui |
| LIU Guoshi          | LIU Jianxin    | ZHU Huabin     | ZHU Hongfei  |
| GUO Yuming          | ZHANG Wenguang | ZHANG Junmin   | ZHANG Hongfu |
| ZHANG Jiahua        | LI Kui         | LI Fadi        | LI Junya     |
| LI Shengli          | YANG Hanchun   | CHEN Hualan    | CHEN Jilan   |
| SHAN Anshan         | LUO Hailing    | FAN Hongjie    | ZAN Linsen   |
| ZHAO Ruqian         | QIN Guixin     | JIA Yushan     | GUO Yong     |
| GUO Xin             | CUI Shangjin   | CAO Binghai    | CHU Mingxing |
| TONG Guangzhi       | HAN Xuesong    | XIONG Benhai   | QIAO Shiyan  |