



中文核心期刊
中国科技核心期刊

QK2222950



CHINESE JOURNAL OF VETERINARY SCIENCE

中国兽医学报

第42卷 Vol.42

2022 - 03

3

ISSN 1005-4545



万方数据



吉林大学 主办

中国兽医学报

ZHONGGUO SHOUYI XUEBAO

月刊

1981 年创刊

2022 年 3 月

第 42 卷

第 3 期

目次

研究论文

预防兽医学猪圆环病毒三重 PCR 检测方法的建立及其广西地区流行病学调查

..... 赵 晶,施开创,刘惠心,尹彦文,龙 凤,陆文俊,屈素洁,司红彬(413)

PCV3 自然感染仔猪病例的病理学观察及体内分布

..... 吕志凯,张伟超,陈永林,孙秀秀,王 庚,涂 军,钱 平,程国富,陈 品(421)

不同佐剂伪狂犬病病毒主要抗原决定簇 gBb 亚单位疫苗免疫小鼠安全性及免疫效力测定

..... 郭广君,韩 强,吕素芳,王文秀,李 峰,李振伟,谢金文,张翠花,沈志强(426)

非洲猪瘟病毒 pH359L 蛋白原核表达及多克隆抗体的制备

..... 杨赛霞,赵亚茹,刘志杰,杨吉飞,张忠辉,樊 洁,耿抒贤,吕欣倩,敬梦瑶,殷 宏,牛庆丽(432)

双特异性溶瘤腺病毒 Ad-VT 对肺癌干细胞的抑瘤作用

..... 芦 静,尚 超,葛晨晨,姚 伟,金宁一,金 鑫,李文杰,李 霄(439)

BVDV E^{ms} 抗体 ELISA 检测方法的建立及初步应用

..... 刘勃兴,刘 畅,王利丽,付 祥,吴同垒,刘 洁,高荣菊,张志强,史秋梅(445)

野生鸟类新城疫病毒分离株的生物学特性和系统发育分析

..... 杨少华,黄庆华,崔 宁,孙守礼,许传田(452)

禽腺病毒强毒(FAdV-4)WZ 株对 SPF 鸡和 SPF 鸭的致病性比较

..... 李利杰,孙文杰,刘 琳,王赛楠,赵振超,张世华,陶明月,高文明,李新生(457)

基于全基因组序列合成的禽副黏病毒 II 型反向遗传操作系统的建立

..... 王国康,李 丽,贾妙妙,冯贺龙,曾 驰,罗青平,温国元(464)

1 株牛源致病性蜡样芽孢杆菌特征分析 吴 克,冯 航,白新栋,陈林千雨,王 娟,杨增岐(472)

致病性大肠杆菌所致犊牛腹泻的病原分析及治疗

..... 梁艳艳,李 可,贾 丽,侯铭源,田梦悦,张 婷,马玉忠(477)

超市零售鸡肉粪肠球菌耐药性及毒力因子流行分布特征

..... 章 婧,陈海欣,喻梦梦,高颖茵,刘文字,蒋红霞(483)

兔源 F 型多杀性巴氏杆菌环介导等温扩增快速检测方法的建立

..... 王锦祥,孙世坤,陈岩峰,陈冬金,桑 雷,谢喜平(490)

绵羊肺炎支原体 P113 蛋白 C 末端基因真核表达载体的构建及其小鼠免疫应答

..... 杨 鹏,吴 燕,岳 筠,陈 静,李 梅,王 慧,张双翔,文 明,程振涛(496)

三氮脒处理后犬吉氏巴贝斯虫转录组测序分析 冯笑笑,张佩豪,张 悦,田思瑾,刘亚娟,姚大伟(502)

人兽共患病 羊口疮病毒 LAMP-LFD 快速检测方法的建立与初步应用

..... 杨 倩,李召仁,鲜思美,包涛涛,张 友,梁 倩,顾庆林(507)

福建省龙岩地区蜚携带的新型弹状病毒全基因序列分析及流行病学调查

..... 路 云,林开雄,裴明超,李杭远,董 露,芦盘金,张 旭,刘 全(514)

青海玉树牦牛源产气荚膜梭菌的分离鉴定及耐药性研究

..... 吴 丹,罗润波,黄家旗,刘安静,夏子涵,吕家煌,李 彬,宋仁德,索朗斯珠(522)

基础兽医学 稳定表达猪 CD163 受体的 MARC-145 细胞系的构建

..... 吕 静,刘文波,刘 畅,任同伟,陈 樱,欧阳康,黄伟坚,韦祖樟(529)

氨离子对奶牛子宫内膜上皮细胞凋亡和容受性的影响

..... 秦 雪,冯 瑞,李 琦,李晓宇,郑 鹏,赵 骞(535)

YWHAZ 在小鼠早期胚胎发育过程中的作用 赵怡凡,马增友,方俊博,孟碟方,彭 辉(541)

沉默中性粒细胞 Orai1 影响 NETs 内 ROS 的表达

..... 麻芯茹,郭 寒,张 伟,李 铭,赵莹莹,王 爽,吕鑫泉,李 享,徐 闯,杨 威,张冰冰(547)

地鳖肽提取物对 H₂O₂ 刺激 C2C12 细胞肌调节因子基因表达的影响

..... 陈靖阳,徐小艾,王 婉,黄 山,沈 红(551)

临床兽医学 猪 β-防御素-2 在黄曲霉毒素 B1 致仔猪空肠上皮细胞炎症反应中的作用

..... 李庆豪,张 曼,孙 娟,彭雅婷,刘 勇,金 鑫,李 奎(558)

雪白睡莲花总黄酮提取工艺优化及其对金黄色葡萄球菌性小鼠乳腺炎模型的治疗效果

..... 刘丹丹,罗 洁,朱怡萱,陈伊静,尼加提·麦力克,李 昊,况 玲,赛福丁·阿不拉,张 伟(566)

胆酸对 LPS 诱导小鼠乳腺炎的保护作用及其机制 郝浩扬,赵才军,何兆祺,张乃生,胡晓宇,付云贺(576)

兔子子宫内膜上皮细胞 α7-nAChR 介导 MAPK 信号通路抑制炎症反应的机制

..... 鲍朝霞,魏泓毓,陈 灰,曹金山,贺鹏飞(582)

动物科学 牛生精母细胞/精原干细胞分子标记 GFRα-1 的验证

..... 杨 蕊,张博洋,朱春玲,张洪毅,潘英树,唐 博,张学明(587)

蚯蚓发酵液对安义瓦灰鸡生长性能、血清指标及免疫器官指数的影响

..... 李园园,李 震,莫庆楠,卢凤兰,周洁蕊,臧一天,吴红翔(592)

综 述

mRNA 疫苗研究进展及其在传染病防控中的应用 尼 博,李月华,刘拂晓,魏 荣(600)

蜚类先天免疫反应研究进展 范香媛,张金成,胡永红(607)

犬乳腺肿瘤标志物的研究现状 郑慧华,张玉珠,高文睿,唐欣悦,杜崇涛,谢光洪(613)

简 讯

《中国兽医学报》第七届编辑委员会委员名单..... (封二)

CONTENTS

- Development of a triplex PCR assay for detection of porcine circovirus and epidemiological investigation of porcine circovirus in Guangxi Province from 2018 to 2020
..... ZHAO Jing, SHI Kaichuang, LIU Huixin, YIN Yanwen, LONG Feng, LU Wenjun, QU Sujie, SI Hongbin (413)
- Pathological observation of naturally infected piglets with PCV3 and *in vivo* distribution
..... LYU Zhikai, ZHANG Weichao, CHEN Yonglin, SUN Xiuxiu, WANG Geng, TU Jun, QIAN Ping, CHENG Guofu, CHEN Pin (421)
- Safety and efficacy evaluation of gBb subunit vaccine with different adjuvants for pseudorabies virus
..... GUO Guangjun, HAN Qiang, LYU Sufang, WANG Wenxiu, LI Feng, LI Zhenwei, XIE Jinwen, ZHANG Cuihua, SHEN Zhiqiang (426)
- Prokaryotic expression and polyclonal antibody preparation of pH359L proteins of African swine fever virus
..... YANG Saixia, ZHAO Yaru, LIU Zhijie, YANG Jifei, ZHANG Zhonghui, FAN Jie, GENG Shuxian, LYU Xinqian, JING Mengyao, YIN Hong, NIU Qingli (432)
- Antitumor effect of dual-specific oncolytic adenovirus Ad-VT on lung cancer stem cells
..... LU Jing, SHANG Chao, GE Chenchen, YAO Wei, JIN Ningyi, JIN Xin, LI Wenjie, LI Xiao (439)
- Establishment and preliminary application of ELISA for detection of BVDV E^{ns} antibody
..... LIU Boxing, LIU Chang, WANG Lili, FU Xiang, WU Tonglei, LIU Jie, GAO Rongju, ZHANG Zhiqiang, SHI Qiumei (445)
- Molecular characterization and phylogenetic analysis of Newcastle disease virus isolates from healthy wild birds
..... YANG Shaohua, HUANG Qinghua, CUI Ning, SUN Shouli, XU Chuantian (452)
- Comparative on pathogenicity of virulent fowl adenovirus (FAdV-4) WZ strain to SPF chickens and SPF ducks
..... LI Lijie, SUN Wenjie, LIU Lin, WANG Sainan, ZHAO Zhenchao, ZHANG Shihua, TAO Mingyue, GAO Wenming, LI Xinsheng (457)
- Establishment of reverse genetic system of avian paramyxovirus type II based on the whole genome synthesis
..... WANG Guokang, LI Li, JIA Miaomiao, FENG Helong, ZENG Chi, LUO Qingping, WEN Guoyuan (464)
- Characteristic analysis of one strain of pathogenic *Bacillus cereus* from cow
..... WU Ke, FENG Hang, BAI Xindong, CHEN Linqianyu, WANG Juan, YANG Zengqi (472)
- Pathogenic analysis and treatment of diarrhea of calves caused by pathogenic *Escherichia coli*
..... LIANG Yanyan, LI Ke, JIA Li, HOU Mingyuan, TIAN Mengyue, ZHANG Ting, MA Yuzhong (477)
- Characteristic of antimicrobial resistance and virulence factors in *Enterococcus faecalis* from retail chicken in supermarket
..... ZHANG Jing, CHEN Haixin, YU Mengmeng, GAO Yingyin, LIU Wenzhi, JIANG Hongxia (483)
- Development of loop-mediated isothermal amplification assay for rapid detection of *Pasteurella multocida* serogroup F strain in rabbits
..... WANG Jinxiang, SUN Shikun, CHEN Yanfeng, CHEN Dongjin, SANG Lei, XIE Xiping (490)
- Construction of eukaryotic expression vector for C terminal gene of *Mycoplasma ovipneumoniae* P113 protein and its immune response in mice
..... YANG Peng, WU Yan, YUE Jun, CHEN Jing, LI Mei, WANG Hui, ZHANG Shuangxiang, WEN Ming, CHENG Zhenhao (496)
- Transcriptome analysis of canine *Babesia gibsoni* treated with diminazene aceturate
..... FENG Xiaoxiao, ZHANG Peihao, ZHANG Yue, TIAN Sijin, LIU Yajuan, YAO Dawei (502)
- Rapid and sensitive diagnosis of Orf virus by loop-mediated isothermal amplification combined with a lateral flow dipstick
..... YANG Qian, LI Zhaoren, XIAN Simei, BAO Taotao, ZHANG You, LIANG Qian, GU Qinglin (507)
- Complete genomic sequence analysis and epidemiological investigation of a novel rhabdovirus carried by ticks in Longyan, Fujian Province
..... LU Yun, LIN Kaixiong, PEI Mingchao, LI Hangyuan, DONG Lu, LU Panjin, ZHANG Xu, LIU Quan (514)
- Isolation, identification and drug resistance of *Clostridium perfringens* from yak in Yushu, Qinghai
..... WU Dan, LUO Runbo, HUANG Jiaqi, LIU Anjing, XIA Zihan, LYU Jiahua, LI Bin, SONG Rende, Suolangsizhu (522)
- Construction of MARC-145 cell line stably expressing porcine CD163 receptor
..... LYU Jing, LIU Wenbo, LIU Chang, REN Tongwei, CHEN Ying, OUYANG Kang, HUANG Weijian, WEI Zuzhang (529)
- Effects of ammonia on apoptosis and receptivity of endometrial epithelial cells of dairy cows
..... QIN Xue, FENG Rui, LI Qi, LI Xiaoyu, ZHENG Peng, ZHAO Qian (535)

Function of YWHAZ in early embryonic development of mice ZHAO Yifan, MA Zengyou, FANG Junbo, MENG Diefang, PENG Hui (541)

Silencing neutrophils Orail affects the expression of ROS in NETs MA Xinru, GUO Han, ZHANG Wei, LI Ming, ZHAO Yingying, WANG Shuang, LYU Xinquan, LI Xiang, XU Chuang, YANG Wei, ZHANG Bingbing (547)

Effects of *Eupofyphaga sinensis* peptide extracts on expression of myogenic regulatory factor in C2C12 cells stimulated with H₂O₂ CHEN Jingyang, XU Xiaoi, WANG Wan, HUANG Shan, SHEN Hong (551)

Role of porcine β -defensin-2 in inflammatory response of IPEC-J2 cells induced by aflatoxin B1 LI Qinghao, ZHANG Man, SUN Juan, PENG Yating, LIU Yong, JIN Xin, LI Kui (558)

Optimal extraction process and therapeutic effect studies of total flavonoids from *Nymphaea candida* on mice model of *Staphylococcus aureus* mastitis LIU Dandan, LUO Jie, ZHU Yixuan, CHEN Yijing, NIJIATI Mailike, LI Hao, KUANG Ling, SAIFUDING Abula, ZHANG Wei (566)

Protective effect and mechanism of cholic acid on LPS-induced mastitis in mice HAO Haoyang, ZHAO Caijun, HE Zhaoqi, ZHANG Naisheng, HU Xiaoyu, FU Yunhe (576)

Mechanism of α 7-nAChR mediated MAPK signaling pathway to inhibit inflammatory response in rabbit endometrial epithelial cells BAO Zhaoxia, WEI Hongyu, CHEN Hui, CAO Jinshan, HE Pengfei (582)

Verification of the molecular marker GFR α -1 in bovine gonocytes/spermatogonial stem cells YANG Rui, ZHANG Boyang, ZHU Chunling, ZHANG Hongyi, PAN Yingshu, TANG Bo, ZHANG Xueming (587)

Effects of earthworm fermentation liquor on growth performance, serum index and immune organ index of Anyi tile-like gray chicken LI Yuanyuan, LI Zhen, MO Qingnan, LU Fenglan, ZHOU Jierui, ZANG Yitian, WU Hongxiang (592)

Progress in mRNA vaccine and its application in controlling infectious diseases NI Bo, LI Yuehua, LIU Fuxiao, WEI Rong (600)

Progress of research on innate immune response in ticks FAN Xiangyuan, ZHANG Jincheng, HU Yonghong (607)

Research status of biomarkers in canine mammary tumors ZHENG Huihua, ZHANG Yuzhu, GAO Wenrui, TANG Xinyue, DU Chongtao, XIE Guanghong (613)

执行主编:张学东 责任编辑:王浩然 英文编辑:王铁东

中国兽医学报
ZHONGGUO SHOUYI XUEBAO

1981年创刊(月刊)

2022年3月15日 第42卷 第3期(总第303期)

Chinese Journal of
Veterinary Science

Started in 1981 (Monthly)

2022-03-15 Vol.42 No.3(Sum No.303)

主管单位	中华人民共和国教育部	Management	Ministry of Education of the People's Republic of China
主办单位	吉林大学	Sponsor	Jilin University
主 编	金宁一	Editor-in-Chief	JIN Ningyi
总 编	郭建顺	Managing Editor	GUO Jianshun
编辑出版	中国兽医学报编辑部	Editor	Editorial Board on Chinese Journal of Veterinary Science
地 址	吉林省长春市西安大路 5333 号 (邮政编码 130062)	Address	5333 Xi'an Road, Changchun, Jilin, 130062, China
电 话	0431-87836534	Telephone	+86-431-87836534
印 刷	吉林省保隆冠彩印刷有限公司	Overseas	China International Book Trading Corporation (P.O.Box 399, Beijing, China)
国内发行	吉林省报刊发行局	投稿系统	http://zsyx.cbpt.cnki.net
订 购	全国各地邮政局(所)		
国外发行	中国国际图书贸易集团有限公司 (北京 399 信箱)		
电子信箱	xbcjvs@jlu.edu.cn		

中国标准连续出版物号	ISSN 1005-4545 CN 22-1234/R	发行代号	12-105(国内) 4106MO(国外)	国内定价	20.00 元/册 240.00 元/年
------------	--------------------------------	------	--------------------------	------	-------------------------

Function of YWHAZ in early embryonic development of mice ZHAO Yifan, MA Zengyou, FANG Junbo, MENG Diefang, PENG Hui (541)

Silencing neutrophils Orail affects the expression of ROS in NETs MA Xinru, GUO Han, ZHANG Wei, LI Ming, ZHAO Yingying, WANG Shuang, LYU Xinquan, LI Xiang, XU Chuang, YANG Wei, ZHANG Bingbing (547)

Effects of *Eupofyphaga sinensis* peptide extracts on expression of myogenic regulatory factor in C2C12 cells stimulated with H₂O₂ CHEN Jingyang, XU Xiaoi, WANG Wan, HUANG Shan, SHEN Hong (551)

Role of porcine β -defensin-2 in inflammatory response of IPEC-J2 cells induced by aflatoxin B1 LI Qinghao, ZHANG Man, SUN Juan, PENG Yating, LIU Yong, JIN Xin, LI Kui (558)

Optimal extraction process and therapeutic effect studies of total flavonoids from *Nymphaea candida* on mice model of *Staphylococcus aureus* mastitis LIU Dandan, LUO Jie, ZHU Yixuan, CHEN Yijing, NIJIATI Mailike, LI Hao, KUANG Ling, SAIFUDING Abula, ZHANG Wei (566)

Protective effect and mechanism of cholic acid on LPS-induced mastitis in mice HAO Haoyang, ZHAO Caijun, HE Zhaoqi, ZHANG Naisheng, HU Xiaoyu, FU Yunhe (576)

Mechanism of α 7-nAChR mediated MAPK signaling pathway to inhibit inflammatory response in rabbit endometrial epithelial cells BAO Zhaoxia, WEI Hongyu, CHEN Hui, CAO Jinshan, HE Pengfei (582)

Verification of the molecular marker GFR α -1 in bovine gonocytes/spermatogonial stem cells YANG Rui, ZHANG Boyang, ZHU Chunling, ZHANG Hongyi, PAN Yingshu, TANG Bo, ZHANG Xueming (587)

Effects of earthworm fermentation liquor on growth performance, serum index and immune organ index of Anyi tile-like gray chicken LI Yuanyuan, LI Zhen, MO Qingnan, LU Fenglan, ZHOU Jierui, ZANG Yitian, WU Hongxiang (592)

Progress in mRNA vaccine and its application in controlling infectious diseases NI Bo, LI Yuehua, LIU Fuxiao, WEI Rong (600)

Progress of research on innate immune response in ticks FAN Xiangyuan, ZHANG Jincheng, HU Yonghong (607)

Research status of biomarkers in canine mammary tumors ZHENG Huihua, ZHANG Yuzhu, GAO Wenrui, TANG Xinyue, DU Chongtao, XIE Guanghong (613)

执行主编:张学东 责任编辑:王浩然 英文编辑:王铁东

中国兽医学报
ZHONGGUO SHOUYI XUEBAO

1981 年创刊 (月刊)

2022 年 3 月 15 日 第 42 卷 第 3 期(总第 303 期)

Chinese Journal of
Veterinary Science

Started in 1981 (Monthly)

2022-03-15 Vol.42 No.3(Sum No.303)

主管单位	中华人民共和国教育部	Management	Ministry of Education of the People's Republic of China
主办单位	吉林大学	Sponsor	Jilin University
主 编	金宁一	Editor-in-Chief	JIN Ningyi
总 编	郭建顺	Managing Editor	GUO Jianshun
编辑出版	中国兽医学报编辑部	Editor	Editorial Board on Chinese Journal of Veterinary Science
地 址	吉林省长春市西安大路 5333 号 (邮政编码 130062)	Address	5333 Xi'an Road, Changchun, Jilin, 130062, China
电 话	0431-87836534	Telephone	+86-431-87836534
印 刷	吉林省保隆冠彩印刷有限公司	Overseas	China International Book Trading Corporation (P.O.Box 399, Beijing, China)
国内发行	吉林省报刊发行局	投稿系统	http://zsyx.cbpt.cnki.net
订 购	全国各地邮政局(所)		
国外发行	中国国际图书贸易集团有限公司 (北京 399 信箱)		
电子信箱	xbcjvs@jlu.edu.cn		

中国标准连续出版物号	ISSN 1005-4545 CN 22-1234/R	发行代号	12-105(国内) 4106MO(国外)	国内定价	20.00 元/册 240.00 元/年
------------	--------------------------------	------	--------------------------	------	-------------------------