



全国中文核心期刊
中国科技核心期刊
中国科学引文数据库来源期刊

ISSN 0366-6964
CODEN CMHPAI



畜牧兽医学报

ACTA VETERINARIA ET ZOOTECHNICA SINICA

CHINESE JOURNAL
OF ANIMAL AND VETERINARY SCIENCES

Vol.51

No.6

2020

中国畜牧兽医学会

CHINESE ASSOCIATION OF ANIMAL
SCIENCE AND VETERINARY MEDICINE

ISSN 0366-6964



畜牧兽医学报

XUMU SHOUYI XUEBAO

第 51 卷 第 6 期 2020 年 6 月

目 次

综 述

多糖类化合物的抗菌作用及其机制研究进展

..... 吴香云,刘亚娜,周喆麒,潘源虎,郝海红,程古月,王玉莲(1167)

遗传育种

猪 lncRNA TCONS_00791383 对骨骼肌卫星细胞增殖分化的影响

..... 李倩倩,李 龙,黄子莹,李长春(1177)

鸡血糖性状的全基因组关联分析..... 刘晓静,刘 璐,王 杰,崔焕先,赵桂苹,文 杰(1187)

QDPR 基因克隆及其在乌蒙凤鸡不同生长阶段组织表达研究

..... 莫先艇,张 勇,骆科印,黄明捷,王天松,郭 勇,杨 红(1196)

miR-128-1-5p 对绵羊前体脂肪细胞增殖和分化调节作用的研究

..... 刘建华,梁 煜,车雨彤,王 凤,刘旭莹,赵弼时,王 强,安丽霞,乔利英,刘文忠(1207)

miR-106b-5p 靶向 *KLF4* 调控山羊肌内前体脂肪细胞分化

..... 杜 宇,赵 越,林亚秋,朱江江,王 永,马洁琼,谢光杰(1219)

microRNA-96-5p 靶向调控羊驼黑色素细胞中 *MITF* 基因的表达

..... 张利环,马悦悦,刘文艳,蓝吴涛,朱芷葳(1229)

生物技术与繁殖

AREG 对绵羊小腔卵泡卵母细胞体外成熟的影响

..... 王兆琛,赵勇超,杜 炜,栾兆进,刘春洁,张家新(1238)

β 防御素 124 沉默通过 p38MAPK/AP1 通路调控山羊附睾头细胞趋化因子和细胞因子的表达

..... 孟繁荣,邵苗苗,董复成,任有蛇,刘文忠,乔利英,张春香(1248)

鸡胚外泌体 miRNAs 功能分析 李 莹,王 艳,王 劼,何静怡,罗成龙,瞿 浩(1260)

牛体内囊胚全转录组模式解析

..... 王晶晶,张培培,郝海生,杜卫华,庞云渭,权国波,赵善江,邹惠影,朱化彬,赵学明(1271)

营养与饲料

白藜芦醇对不同底物甲烷产生、养分降解及微生物区系的影响

..... 吴万成,马 涛,刘 娜,杨 磊,陈国顺,刁其玉(1281)

饲料能量水平对 13~18 月龄荷斯坦奶牛生产性能和屠宰指标的影响

..... 张美琦,李 妍,李树静,高艳霞,李建国,曹玉凤,李秋风(1295)

不同添加水平的磷酸一二钙对肉鸡生产性能、钙磷代谢及盲肠微生物的影响

..... 刘 景,陈炳钿,李忠荣,何姝颖,张世忠,邱华玲,缪伏荣,陈 卓,陈鑫珠(1306)

食糜样本中 11 种生物胺同步检测方法的建立

…………… 任梦雅,冯潇慧,解竞静,文晓宾,孟庆石,刘丽莉(1320)

单宁酸对生长猪胃—小肠仿生消化中消化酶活性及饲料粗蛋白消化率的影响

…………… 王 亚,赵 峰,张 虎,赵 威,徐二华,李浙烽(1332)

河北省舍饲绵羊的热应激评价及温湿参数与羊生理指标的相关性研究

…………… 赵娟娟,冯 曼,孙新胜,卢冬梅,王 超,赵寿培,车大璐,高玉红(1342)

预防兽医

10 种预测的鸚鵡热衣原体 III 型分泌系统效应蛋白的定位分析

…………… 伍海英,唐 婷,张 旭,潘奕良,郭 壮,全淑芬,陈丽丽(1354)

旋毛虫重组二肽基肽酶 1 在体外对大鼠外周血单个核细胞增殖、吞噬、凋亡等的影响

…………… 廖书漪,储 稳,徐立新,宋小凯,李祥瑞,严若峰(1362)

非洲猪瘟病毒 MGF 360-9L 基因序列分析、蛋白结构预测及亚细胞定位

…………… 申超超,李国丽,张大俊,徐国伟,侯 景,李 丹,党 文,张克山,郑海学,刘湘涛(1371)

8 株分离自四川、贵州地区猪繁殖与呼吸综合征病毒毒株的全基因组特征分析

…………… 周 沈,康润敏,张 毅,谢 波,于吉锋,李 春,张 斌,汤 承,王红宁(1382)

基因 I 型乙型脑炎病毒病毒样颗粒的制备及其对小鼠的免疫原性分析

…………… 施 磊,周亚红,田占成,高闪电,独军政,关贵全,刘光远,罗建勋,殷 宏(1391)

貉源阿留申病毒 VP2 和 NS1 蛋白的抗原性预测

…………… 吴艳虹,赵永强,韦 韬,章秀婷,丛 丽,岳志刚,肖家美,邵西群(1399)

副猪嗜血杆菌小鼠毒力和仔猪毒力的相关性分析

…………… 李飞跃,陈坤鹏,丁文文,薛 云,王 臣,司丽芳,赵战勤(1408)

猪支原体肺炎 LAMP-LFD 快速检测方法的建立及初步应用

…………… 孙盼盼,时建立,彭 喆,王 硕,王 妍,吴晓燕,徐绍建,李 俊(1419)

H5、H7 和 H9 亚型禽流感病毒四重荧光 RT-PCR 检测方法的建立与应用

…………… 王素春,仲焕香,姜 楠,姜利建,潘子豪,孙福亮,刘华雷,黄保续,王楷成(1429)

四川省松潘县牦牛体表蜱、高原鼠兔携带巴尔通体和无形体的 PCR 检测与进化分析

…………… 赫秀甜,向 阳,袁东波,阳爱国,范小虎,谭 雄,钟叶青,郝力力(1438)

基础兽医

禽网状内皮组织增生病毒感染对 SPF 雏鸡血液和局部淋巴组织 CD4⁺/CD8⁺ 细胞及

相关细胞因子表达的影响…………… 刘丹华,郑世民,刘晓静,吕晓萍,高雪丽,刘超男(1447)

性激素受体在子午岭黑山羊隐睾及正常睾丸中的分布比较

…………… 王乾梅,袁莉刚,李承晔,杨洪早,陈少宇(1455)

临床兽医

连翘水提液体外对禽流感病毒增殖及炎症因子表达的抑制效应

…………… 赵冰倩,罗 畅,刘健新,李慧子,张彭涛,于相龙,刘博洋,宁章勇(1466)

ACTA VETERINARIA ET ZOOTECHNICA SINICA
CHINESE JOURNAL OF ANIMAL AND VETERINARY SCIENCES

Published Monthly:

Chinese Association of Animal Science and Veterinary Medicine

Beijing, China

Vol. 51 No. 6 (Jun. 2020)

CONTENTS

REVIEW

Research Progress on Antibacterial Effect and Mechanism of Polysaccharides

..... WU Xiangyun, LIU Yana, ZHOU Zheqi, PAN Yuanhu, HAO Haihong,
CHENG Guyue, WANG Yulian(1167)

ANIMAL GENETICS AND BREEDING

Effect of Pig lncRNA TCONS_00791383 on the Proliferation and Differentiation of Skeletal Muscle Satellite Cells

..... LI Qianqian, LI Long, HUANG Ziyong, LI Changchun(1177)

Genome-wide Association Study of Chicken Blood Glucose Traits Using Whole Genome Resequencing

..... LIU Xiaojing, LIU Lu, WANG Jie, CUI Huanxian, ZHAO Guiping, WEN Jie(1187)

Cloning of QDPR Gene and Its Expression in Various Tissues in Different Growth Stages of Wumeng Crested Chicken

..... MO Xianting, ZHANG Yong, LUO Keyin, HUANG Mingjie,
WANG Tiansong, GUO Yong, YANG Hong(1196)

Study on the Regulation of miR-128-1-5p in Proliferation and Differentiation of Ovine Preadipocyte

..... LIU Jianhua, LIANG Yu, CHE Yutong, WANG Feng, LIU Xuying,
ZHAO Bishi, WANG Qiang, AN Lixia, QIAO Liying, LIU Wenzhong(1207)

miR-106b-5p Regulates the Differentiation of Goat Intramuscular Preadipocytes by Targeting *KLF4*

..... DU Yu, ZHAO Yue, LIN Yaqui, ZHU Jiangjiang, WANG Yong, MA Jieqiong, XIE Guangjie(1219)

microRNA-96-5p Targets *MITF* Gene in Alpaca Melanocytes

..... ZHANG Lihuan, MA Yueyue, LIU Wenyan, LAN Wutao, ZHU Zhiwei(1229)

ANIMAL BIOTECHNOLOGY AND REPRODUCTION

Effect of AREG on *in vitro* Maturation of Small Antral Follicular Oocytes of Sheep

..... WANG Zhaochen, ZHAO Yongchao, DU Wei, LUAN Zhaojin, LIU Chunjie, ZHANG Jiixin(1238)

Silencing of Goat Beta-defensin 124 Regulate the Expression of Cytokines and Chemokins in Epididymial Caput Cell by the p38MAPK/AP1 Signaling Pathway

..... MENG Fanrong, TAI Miaomiao, DONG Fucheng, REN Youshe,
LIU Wenzhong, QIAO Liying, ZHANG Chunxiang(1248)

Functional Analysis of microRNAs in Chicken Embryos-derived Exosomes

..... LI Ying, WANG Yan, WANG Jie, HE Jingyi, LUO Chenglong, QU Hao(1260)

Analysis of Whole Transcriptome Pattern of Bovine *in vivo* Blastocyst

..... WANG Jingjing, ZHANG Peipei, HAO Haisheng, DU Weihua, PANG Yunwei, QUAN Guobo,
ZHAO Shanjiang, ZOU Huiying, ZHU Huabin, ZHAO Xueming(1271)

ANIMAL NUTRITION AND FEEDS

Effect of Resveratrol on Methane Production, Nutrient Degradation and Microbial Community under Different Substrates

..... WU Wancheng, MA Tao, LIU Na, YANG Lei, CHEN Guoshun, DIAO Qiyu(1281)

Effects of Dietary Energy Level on Production Performance and Slaughter Indicators of 13-18 Months Old Holstein Steers

..... ZHANG Meiqi, LI Yan, LI Shujing, GAO Yanxia, LI Jianguo, CAO Yufeng, LI Qiufeng(1295)

Effects of Different Dietary Mono-dicalcium Phosphate Supplementation on Production Performance, Blood Parameters, Bone Calcium, Phosphorus Metabolism and Cecal Microecology in Broilers

..... LIU Jing, CHEN Bingdian, LI Zhongrong, HE Shuying, ZHANG Shizhong,
QIU Hualing, MIAO Furong, CHEN Zhuo, CHEN Xinzhu(1306)

Establishment of Simultaneous Detection of 11 Biogenic Amine in Chyme Samples

..... REN Mengya, FENG Xiaohui, XIE Jingjing, WEN Xiaobin, MENG Qinshi, LIU Lili(1320)

Effects of Tannic Acid on Digestive Enzyme Activity and Digestibility of Dietary Crude Protein in Simulated Gastric and Intestinal Digestion for Growing Pigs

..... WANG Ya, ZHAO Feng, ZHANG Hu, ZHAO Wei, XU Erhua, LI Zhefeng(1332)

Evaluation of Heat Stress of Housed Sheep and Correlation between Temperature-humidity Parameter and Physiological Parameter of Sheep in Hebei Province

..... ZHAO Juanjuan, FENG Man, SUN Xinsheng, LU Dongmei, WANG Chao, ZHAO Shoupei, CHE Dalu, LI Xuemei, GAO Yuhong(1342)

PREVENTIVE VETERINARY MEDICINE

Localization of 10 Putative Effector Proteins Secreted via Type III Secretion System of *Chlamydia psittaci*

..... WU Haiying, TANG Ting, ZHANG Xu, PAN Yiliang, GUO Zhuang, QUAN Shufen, CHEN lili(1354)

Effect of *Trichinella spiralis* Recombinant Dipeptidyl-peptidase 1 on Proliferation, Phagocytosis, and Apoptosis of Rat PBMCs *in vitro*

..... LIAO Shuyi, CHU Wen, XU Lixin, SONG Xiaokai, LI Xiangrui, YAN Ruofeng(1362)

Gene Sequence Analysis, Protein Structure Prediction and Subcellular Localization of MGF 360-9L from African Swine Fever Virus

..... SHEN Chaochao, LI Guoli, ZHANG Dajun, XU Guowei, HOU Jing, LI Dan, DANG Wen, ZHANG Keshan, ZHENG Haixue, LIU Xiangtao(1371)

Whole Genome Analysis of Eight Porcine Reproductive and Respiratory Syndrome Viruses Isolated in Sichuan and Guizhou Provinces

..... ZHOU Long, KANG Runmin, ZHANG Yi, XIE Bo, YU Jifeng, LI Chun, ZHANG Bin, TANG Cheng, WANG Hongning(1382)

Generation of Genotype I Japanese Encephalitis Virus Virus-like Particles and Evaluation of Its Immunogenicity in Mice

..... SHI Lei, ZHOU Yahong, TIAN Zhancheng, GAO Shandian, DU Junzheng, GUAN Guiquan, LIU Guangyuan, LUO Jianxun, YIN Hong(1391)

Cloning and Epitopes Analysis of VP2 and NS1 Proteins of Raccoon Dog and Arctic Fox Amdoparvovirus

..... WU Yanhong, ZHAO Yongqiang, WEI Tao, ZHANG Xiuting, CONG Li, YUE Zhigang, XIAO Jiamei, SHAO Xiqun(1399)

Correlation between Virulence of *Haemophilus parasuis* in Mice and Piglet

... LI Feiyue, CHEN Kunpeng, DING Wenwen, XUE Yun, WANG Chen, SI Lifang, ZHAO Zhanqin(1408)

Rapid and Sensitive Diagnosis of *Mycoplasma hyopneumoniae* by Loop-mediated Isothermal Amplification Combined with a Lateral Flow Dipstick

..... SUN Panpan, SHI Jianli, PENG Zhe, WANG Shuo, WANG Yan, WU Xiaoyan, XU Shaojian, LI Jun(1419)

Establishment of the Quadruple Real-time Fluorescence RT-PCR for Detection of H5, H7 and H9 Subtypes Avian Influenza Virus

..... WANG Suchun, ZHONG Huanxiang, JIANG Nan, JIANG Lijian, PAN Zihao, SUN Fuliang, LIU Hualei, HUANG Baoxu, WANG Kaicheng(1429)

PCR Detection and Phylogenetic Analysis of *Bartonella* spp. and *Anaplasma* spp. in Ixodid Ticks Collected from Yak and Plateau Pika in Songpan County of Sichuan Province

..... HE Xiutian, XIANG Yang, YUAN Dongbo, YANG Aiguo, FAN Xiaohu, TAN Xiong, ZHONG Yeqing, HAO Lili(1438)

BASIC VETERINARY MEDICINE

Effects of Avian Reticuloendotheliosis Virus Infection on the CD4⁺/CD8⁺ Ratio and the Expression of Related Cytokines in SPF Chicks

..... LIU Danhua, ZHENG Shimin, LIU Xiaojing, LÜ Xiaoping, GAO Xueli, LIU Chaonan(1447)

Distribution of Sex Hormone Receptors in Cryptorchidism and Normal Testes of Ziwuling Black Goat

..... WANG Qianmei, YUAN Ligang, LI Chengye, YANG Hongzao, CHEN Shaoyu(1455)

CLINICAL VETERINARY MEDICINE

Inhibitory Effect of *Forsythiae Fructus* Aqueous Extracts on the Proliferation of Avian Influenza Virus and the Expression of Inflammation Factors *in vitro*

..... ZHAO Bingqian, LUO Chang, LIU Jianxin, LI Huizi, ZHANG Pengtao, YU Xianglong, LIU Boyang, NING Zhangyong(1466)

《畜牧兽医学报》第六届编辑委员会成员

顾问 张子仪 刘守仁 吴常信 夏咸柱 刘秀梵

主任委员 陈焕春

副主任委员 阎汉平 汪明 苏振环 时建忠

编委成员 (按姓名英文字母/汉字笔画排序)

Chris Anderson David Lindsay Graham Gardner W. Bruce Currie

马月辉 王加启 方维焕 宁宜宝 卢德勋 朱士恩 朱兴全 刘湘涛 余锐萍

杜立新 吕于明 陆承平 陈溥言 陈瑶生 李奎 李庆章 李学伟 李德发

沙玉圣 张涌 张仲秋 张家骅 沈建忠 杨宁 罗绪刚 孟庆翔 郑友民

周继勇 姜平 赵兴绪 赵茹茜 夏国良 涂长春 郭万柱 黄维义 崔治中

童光志 蒋小松 舒鼎铭

名誉主编 陈幼春 蒋金书

主编 文杰

副主编 张沅 时建忠 汪明 杨汉春 于康震 王立贤 任鹏

编辑部主任 任鹏

主编 文杰

广告部主任 程金华 本期责任编辑 范子娟

畜牧兽医学报

(月刊,1956年创刊)

2020年 第51卷 第6期

2020年6月出版

主管 中国科学技术协会
主办 中国畜牧兽医学会
编辑 《畜牧兽医学报》编委会
中国农业农村部北京畜牧兽医研究所
地址 北京海淀区圆明园西路2号
邮编 100193
电话 010-62815987 62816996 62893836
网址 <http://www.xmsyxb.com>
电子邮箱 xmsyxb@263.net
出版单位 《中国畜牧兽医杂志》有限公司
印刷 北京科信印刷有限公司
国内总发行 中国邮政集团公司北京市报刊发行局
国外总发行 中国国际图书贸易集团有限公司
(中国国际书店)北京399信箱
订购 全国各地邮局
中国标准连续出版物号 ISSN 0366-6964
CN 11-1985/S

ACTA VETERINARIA ET ZOOTECHNICA SINICA

(Monthly, Started in 1956)

Vol. 51 No. 6 Jun. 2020

Supervised by China Association for Science and Technology
Sponsored by Chinese Association of Animal Science and Veterinary Medicine
Edited by Editorial Board of the ACTA VETERINARIA ET ZOOTECHNICA SINICA
Institute of Animal Science, Chinese Academy of Agricultural Sciences
Address No.2 West Road Yuanmingyuan, Haidian Beijing, China. Post Code 100193
Telephone 010-62815987 62816996 62893836
Website <http://www.xmsyxb.com>
E-mail xmsyxb@263.net
Published by Chinese Journal of Animal Science and Veterinary Medicine Co.,Ltd
Printed by Beijing Kexin Printing Co.,Ltd
Distributed by Domestic Beijing Post Office, China Post Group Corporation
Overseas China International Book Trading Corporation, P.O.Box 399

国内定价:50.00元(全年600元)

邮发代号:82-453 国外代号:M446

广告发布登记证号:京海工商广登字20170255号