



QK2042162,1

CN 11-1865/R

5

2020

2020年 第36卷 第5期  
Vol.36 No.5 2020

中国精品科技期刊

# 病毒学报

B I N G D U X U E B A O

# CHINESE JOURNAL OF VIROLOGY



中国微生物学会  
Chinese Society for Microbiology

目次

新型冠状病毒研究专题论著

北京市朝阳区1例输入性SARS-CoV-2全基因组序列分析

.....韩桃利,王海滨,焦洋,雷娜,高艳,赵剑虹,田甜,董歧,段杉,孙灵利(745)

安徽省新型冠状病毒分离鉴定和全基因组序列分析 .....栗薇薇,孙永,袁媛,俞俊岭,陈晴晴,葛盈露,张竹慧,何军(751)

磷酸氯喹治疗阿比多尔治疗失败新冠肺炎患者的疗效观察 .....莫广艳,席加喜(758)

2019新型冠状病毒肺炎肾功能及尿常规指标分析 .....刘海艇,陈赛,尚雪菱,李轶,桂嵘,张军华(763)

手足口病相关病毒研究专题论著

基于5'UTR-VP4-VP2区测序鉴定手足口病肠道病毒.....王建,邵永强,孙宝昌,斜慧芬,郑文力,吴矛矛(770)

基于Label-free定量蛋白组学揭示肠道病毒A71型感染致人扁桃体上皮细胞蛋白质组的改变

.....李丹,苏萌,孙萍萍,王春阳,王蒋丽,王宏,章青,杜奕英,郭文平,谢广成(778)

EV71感染诱导小鼠海马细胞发生自噬的作用研究 .....刘海洋,张玉,贺晓丽,周远涛,李莉(787)

2011~2018年埃可病毒25型山东分离株的分子流行病学特征 .....赵晨旭,陶泽新,林小娟,王素婷,纪峰,徐爱强(795)

人类病毒研究论著

脊髓灰质炎病毒假病毒中和试验测定血清中和抗体滴度的研究 .....吴雅楠,朱文勇,周健,刘泽,马磊,高菁霞,廖国阳(802)

ANGPTL4在乙型肝炎病毒X蛋白促进肝癌细胞生长中的作用 .....李丽,盛明晴(809)

人巨细胞病毒感染通过JAK2/STAT3途径调控结肠癌细胞的增殖及侵袭

.....白菊芳,杨玉霞,马颖才,刘芝兰,薛晓红,赵相(816)

质粒转染比例对人乳头瘤病毒16/18型假病毒制备的影响 .....陈洁,柳欣林,徐琴,王大宁,夏宁邵,李少伟(822)

*tk1*基因敲除Vero细胞株的建立及其在单纯疱疹病毒*tk*基因修复中的应用.....卢锐涛,余明敏,雷志翔,陈晓湘(829)

2015~2017年上海市急性结膜炎患者中人腺病毒感染的型别分布及其流行病学特征

.....崔晓青,林森林,张曦,袁政安,陆丽娜,滕峥(834)

新一代全基因组测序揭示2014~2018年云南省临沧市H3N2亚型流感病毒的遗传突变机制

.....张汉菊,仇娜,周晓荣,赵晓南,徐闻,伏晓庆,张美玲(840)

人星状病毒、肠道腺病毒双重实时荧光RT-PCR方法的建立及应用

.....毛彤瑶,刘诗琪,裴银辉,王萌璇,章青,王宏,孔翔羽,李慧莹,张佳艳,段招军,李丹地(855)

采用风险矩阵评估俄罗斯、哈萨克斯坦两种蜱传病毒性传染病输入我国风险水平 .....王媛,韩桃利,王英(865)

2019年广州地区肾移植受者中BK病毒的基因型分布特征 .....李磊,邓家成,范雪娇,何文茵,梁君瑜,蔡瑞明(871)

非洲猪瘟病毒研究论著

非洲猪瘟病毒pS273R蛋白酶的可溶性表达与胞外活性鉴定

.....王彦伟,王孟月,张素玲,吴芃,白露露,王同燕,李向东,逢文强,田克恭(879)

非洲猪瘟研究领域专利布局和竞争态势分析 .....马丽丽,吴跃伟,陈晓晖,陈逗逗,宁峻涛,王洪,焦洪涛,雷瑞鹏,刘欢(885)

动物病毒研究论著

流行性出血病病毒(EHDV)血清型特异性荧光定量RT-PCR方法的建立及初步应用

.....杨振兴,李占鸿,宋子昂,朱建波,李卓然,李华春,谢佳芮,廖德芳,杨恒(897)

黄腐酚对猪流行性腹泻病毒的体外抑制作用 .....赵诗莹,陈新,陈欢,钱莺娟,郑龙三,戴建君(907)

植物病毒研究论著

黄瓜花叶病毒RNA3基因间隔区的功能研究 .....杨磊,张建平,孙鑫,卢全有(913)

新型冠状病毒研究专题综述

ACE2类似酶B38-CAP调节新型冠状病毒肺炎患者RAS系统平衡的作用分析 .....周元琳,范慧海(923)

新冠病毒SARS-CoV-2的感染机制研究进展 .....普荣光,武婧,白雪,刘维全(927)

综述

手足口病主要病原变迁及分子进化研究 .....韦欢欢,朱俊萍,何秋水(936)

CRISPR/Cas9基因编辑技术在病毒学研究中的应用及进展 .....滕蔓,刘金玲,郑鹿平,罗俊(946)

APOBEC3家族减少乙型肝炎病毒cccDNA库的作用机制进展 .....张泽凤,李晖,邓秀秀,辜群利,曾子键(955)

甲壳动物虹彩病毒的研究进展 .....郑泰,姚光山,吴小锋,陈建明(962)

甲病毒受体研究进展 .....曾喻兵,殷鑫欢,徐雷,朱玲,徐志文(969)

猪流行性腹泻病毒感染调控干扰素反应的研究进展 .....丁珍,吴琼,丘建龙,黄冬艳,宋德平,叶昱,唐玉新(975)

信息

《病毒学报》获得中国精品科技期刊顶尖学术论文(F5000)项目来源期刊证书(2017~2020年)(封二)

《病毒学报》获得中国精品科技期刊证书(2008年)(封三)

《病毒学报》入编《中文核心期刊要目总览》2017年版(第8版)之基础医学类核心期刊(插页)

《病毒学报》获得中国科技核心期刊收录证书(2019年)(插页)

《病毒学报》获得RCCSE中国核心学术期刊(A)证书(2017~2018年)(插页)

《病毒学报》获得中国科学引文数据(CSCD)核心来源期刊证书(2019~2020年)(插页)

《病毒学报》入选《中国学术期刊影响因子年报》统计刊源证书(2019版)(插页)

《病毒学报》中国学术期刊影响因子年报(自然科学与工程技术2019年)(插页)

2020年中国微生物学会及各专业委员会学术活动计划表(插页)

《病毒学报》征稿简则(2018年12月25日修订)(插页)

《病毒学报》第六届编辑委员会成员名单(插页)

期刊基本参数:CN-11-1865/R\*1985\*b\*A4\*238\*zh\*P\*128\*1200\*31\*2020-05

执行主编:王玉梅 \*责任编辑:王玉梅 刘向东 助理执行编辑:胡大伟

专业英文审校:张智清 出版英文审校:王玉梅

#排名不分先后

## CONTENTS

## Novel Coronavirus Articles

- Analysis of Complete Genome Sequence of an Imported Case of SARS-CoV-2 in Chaoyang District, Beijing, China  
 .....HAN Taoli, WANG Haibin, JIAO Yang, LEI Na, GAO Yan, ZHAO Jianhong, TIAN Tian, DONG Qi,  
 DUAN Shan, SUN Lingli (750)
- Isolation and Genomic Analyses of SARS-CoV-2 in Anhui Province, China  
 .....LI Weiwei, SUN Yong, YUAN Yuan, YU Junling, CHEN Qingqing, GE Yinglu, ZHANG Zhuhui, HE Jun (757)
- Efficacy of Chloroquine Phosphate in Treatment of COVID-19 Patients in Whom Abidol Treatment Has Failed  
 .....MO Guangyan, XI Jiayi (762)
- Renal Function and Urine Routine Indicators Analysis of Coronavirus Disease 2019  
 .....LIU Haiting, CHEN Sai, SHANG Xueling, LI Yi, GUI Rong, ZHANG Junhua (769)

## Hand Foot and Mouth Disease-Associated Virus Articles

- Identification of Enteroviruses in Hand, Foot, and Mouth Disease Based on Sequencing of the 5'UTR-VP4-VP2 Region  
 .....WANG Jian, SHAO Yongqiang, SUN Baochang, TOU Huiwen, ZHENG Wenli, WU Maomao (777)
- Label-Free-Based Quantitative Proteomics Reveals the Proteomic Alterations of Human Tonsillar Epithelial Cells Infected with Enterovirus-A71  
 .....LI Dan, SU Meng, SUN Pingping, WANG Chunyang, WANG Jiangli, WANG Hong, ZHANG Qing, DU Luanying, GUO Wenping, XIE Guangcheng (786)
- Molecular Mechanism of EV71-Induced Autophagy in Mouse Hippocampal Cells  
 .....LIU Haifeng, ZHANG Yu, HE Xiaoli, ZHOU Yuantao, LI Li (794)
- Molecular Epidemiology of Echovirus 25 in Shandong Province, China, During 2011-2018  
 .....ZHAO Chenxu, TAO Zexin, LIN Xiaojuan, WANG Suting, JI Feng, XU Aiqiang (801)

## Human Virus Articles

- Analyses of the Neutralizing-Antibody Titer in Serum Carrying the Poliovirus Pseudovirus for a Poliovirus Neutralization Test  
 .....WU Yanan, ZHU Wenyong, ZHOU Jian, LIU Ze, MA Lei, GAO Jingxia, LIAO Guoyang (808)
- Role of ANGPTL4 in Stimulation of Growth of Hepatoma Cells by the X Protein of the Hepatitis B Virus  
 .....LI Li, SHENG Langqing (815)
- Infection with the Human Cytomegalovirus Regulates the Proliferation and Invasion of Colon Cancer Cells Through the JAK2/STAT3 Pathway  
 .....BAI Jufang, YANG Yuxia, MA Yingcai, LIU Zhilan, XUE Xiaohong, ZHAO Xiang (821)
- Changes in Plasmid Ratios Used in Transfection Alter the Production and Infection Rate of HPV 16/18 PsVs  
 .....CHEN Jie, LIU Xinlin, XU Qin, WANG Daning, XIA Ningshao, LI Shaowei (828)
- Establishment of *tk1*-Knockout Vero Cell Line and Its Application in HSV *tk* Repair  
 .....LU Ruitao, SHE Mingmin, LEI Zhixiang, CHEN Xiaoxiang (833)
- Molecular Typing and Epidemiology Characteristics of Acute Conjunctivitis in Shanghai, China, from 2015 to 2017  
 .....CUI Xiaoqing, LIN Senlin, ZHANG Xi, YUAN Zheng'an, LU Lina, TENG Zheng (839)
- Next-Generation Sequencing Reveals the Mechanism of Genetic Mutation of the Influenza A (H3N2) Virus in Lincang, China, from 2014 to 2018  
 .....ZHANG Hanju, QIU Na, ZHOU Xiaorong, ZHAO Xiaonan, XU Wen, FU Xiaoqing, ZHANG Meiling (854)
- Development and Application of a Duplex Fluorescence Quantitative RT-PCR Method for Simultaneous Detection and Differentiation of Human Astroviruses and Enteric Adenoviruses  
 .....MAO Tongyao, LIU Shiqi, PEI Yinhui, WANG Mengxuan, ZHANG Qing, WANG Hong, KONG Xiangyu, LI Huiying, ZHANG Jiayan, DUAN Zhaojun, LI Dandi (864)
- Evaluation of the Risk Level of Two Tick-borne Infectious Viral Diseases Imported to China from Russia and Kazakhstan

.....WANG Yuan, HAN Taoli, WANG Ying (870)  
Genotypic Distribution Characteristics of BK Virus in Renal Transplant Recipients in Guangzhou, China, in 2019

.....LI Lei, DENG Jiacheng, FAN Xuejiao, HE Wenyin, LIANG Junyu, CAI Ruiming (878)

**African Swine Fever Virus (ASFV) Articles**

Soluble Expression of pS273R Protease from the African Swine Fever Virus and Identification of Enzymatic Activity *In Vitro*

.....WANG Yanwei, WANG Mengyue, ZHANG Suling, WU Peng, BAI Lulu, WANG Tongyan,  
LI Xiangdong, PANG Wenqiang, TIAN Kegong (884)

Analysis on the Patents Distribution and Competitive Situation about African Swine Fever

.....MA Lili, WU Yuewei, CHEN Xiaohui, CHEN Doudou, NING Juntao, WANG Qi, JIAO Hongtao, LEI Ruipeng, LIU Huan (896)

**Animal Virus Articles**

Development and Application of a Real-time Quantitative RT-PCR Method for Detection and Serotyping of the Epizootic Haemorrhagic Disease Virus .....

.....YANG Zhenxing, LI Zhanhong, SONG Ziang, ZHU Jianbo, LI Zhuoran, LI Huachun,  
XIE Jiarui, LIAO Defang, YANG Heng (906)

Inhibitory Effect of Xanthohumol on the Porcine Epidemic Diarrhea Virus *In Vitro*

.....ZHAO Shiying, CHEN Xin, CHEN Huan, QIAN Yingjuan, JUNG Yongsam, DAI Jianjun (912)

**Plant Virus Articles**

Studies on the Functions of Intergenic Regions of Cucumber Mosaic Virus RNA3

.....YANG Lei, ZHANG Jianping, SUN Xin, LU Quanyou (922)

**Review of Literatures of Novel Coronavirus**

The Role of B38-CAP, an ACE2-Like Enzyme, in Regulating RAS System in the COVID-19 .....

Research Progress on the Infection Mechanism of Coronavirus SARS-CoV-2

.....LU Rongguang, WU Jing, BAI Xue, LIU Weiwan (935)

**Review of Literatures**

Pathogen Spectrum Changes and Molecular Epidemiology of Hand, Foot, and Mouth Disease

.....WEI Huanhuan, ZHU Junping, HE Qiushui (945)

Research Progress in Application of the CRISPR/Cas9 Gene Editing System in Virology

.....TENG Man, LIU Jinling, ZHENG Luping, LUO Jun (954)

Role of the APOBEC3 Family in Reducing cccDNA Pools in the Hepatitis B Virus: A Review

.....ZHANG Zefeng, LI Hui, DENG Xiuxiu, GU Qunli, ZENG Zijian (961)

Research Progress in the Crustaceo-iridovirus .....

.....ZHENG Qin, YAO Guangshan, WU Xiaofeng, CHEN Jianming (968)

Research Advances in Alphavirus Receptors .....

.....ZENG Yubing, YIN Xinhuan, XU Lei, ZHU Ling, XU Zhiwen (974)

Research Progress into Understanding How the Porcine Epidemic Diarrhea Virus Regulates Interferon Production

.....DING Zhen, WU Qiong, QIU Jianlong, HUANG Dongyan, SONG Deping, YE Yu, TANG Yuxing (982)

**Executive Editor-in-Chief:** WANG Yumei

**Professional English Reviewer:** ZHANG Zhiqing

**Publishing English Reviewer:** WANG Yumei

# 病毒学报

第36卷 第5期 2020年9月

(双月刊 1985年创刊)

主管单位 中国科学技术协会  
主办单位 中国微生物学会  
编辑 编辑 《病毒学报》编辑委员会  
(北京西城区迎新街100号100052)

总编辑 舒跃龙  
执行主编/编辑部主任 王玉梅  
出版 《病毒学报》编辑部  
(北京西城区迎新街100号100052)

电话/传真: 8610-63536460

E-mail: bdx@chinajournal.net.cn

主页 <http://bdxb.cbpt.cnki.net>

印刷装订 北京科信印刷有限公司

国内发行 北京市报刊发行局

订 阅 全国各地邮局

国外发行 中国国际图书贸易总公司

国际标准连续出版物号 ISSN 1000-8721

国内统一连续出版物号 CN 11-1865/R

国内邮发代号 82-227

国外发行代号 BM6448

## CHINESE JOURNAL OF VIROLOGY

Vol.36 No.5 September 2020

(Bimonthly, Established in 1985)

Responsible Institution: China Association for Science and Technology

Sponsored by Chinese Society for Microbiology

Edited by Editorial Board of Chinese Journal of Virology (100 Ying Xin Jie, Xi Cheng Qu, Beijing 100052, China)

Editor-in-Chief: SHU Yuelong

Executive Editor/Director of Editorial Office: WANG Yumei

Published by Editorial Office of Chinese Journal of Virology (100 Ying Xin Jie, Xi Cheng Qu, Beijing 100052, China)

Tel/Fax: 8610-63536460

E-mail: bdx@chinajournal.net.cn

[Http://bdxb.cbpt.cnki.net](http://bdxb.cbpt.cnki.net)

Beijing Kexin Printing Co., Ltd.

Distributed by Beijing Bureau for Distribution of Newspapers and Journals

Domestic Subscription: All Local Post Offices in China

Foreign: China International Book Trading Corporation

International Standard Serial Number: ISSN 1000-8721

CN Serial Numbering: CN 11-1865/R

Post Office Code: 82-227



ISSN 1000-8721



9 771000 872201

每册定价:128元 全年定价:768元

万方数据

