

Publications by Chengming Wang *et al.*

2018

1. Yang Y, Yang Z, Kelly P, Ren Y., Wang C*. *Borrelia miyamotoi* sensu lato in a highly endangered Père David's deer (*Elaphurus davidianus*). *Emerging Infectious Diseases*, 2018. In Press
2. Wang J, Zhang J, Kelly P, Zheng X, Li M, You J, Huang K, Qiu H, Wang Y, Zhang R, Li J, Dong J, Feng F, Zhou J, Wang C*. First description of the pathogenicity of *Babesia vogeli* in experimentally infected dogs. *Veterinary Parasitology*, 2018. 253:1-7
3. Zhang J, Chen L, Wang J, Butaye P, Huang K, Qiu H, Zhang X, Gong W, Wang C. Molecular detection of colistin resistance genes (*mcr-1* to *mcr-5*) in human vaginal swabs. *BMC Research Notes*. 2018 Feb 20;11(1):143
4. Yang Y, Yang Z, Kelly P, Li J, Ren Y, Wang C*. *Anaplasma phagocytophilum* in highly endangered Père David's deer (*Elaphurus davidianus*). *Parasites and Vectors*. 2018, 11(1): 25
5. Wang J, Kelly P, Zhang J, Wang C*. Detection of *Dirofilaria immitis* antigen and antibodies against *Anaplasma phagocytophilum*, *Borrelia burgdorferi* and *Ehrlichia canis* in dogs from ten provinces of China. *Acta Parasitologica*. 2018, In Press
6. Zhang J, Wang J, Wang C*. Complete genome sequence of *Ehrlichia canis* strain YZ-1, isolated from a Beagle with fever and thrombocytopenia. *Genome Announcements*. 2018, In Press
7. Zhang J, Chen L, Wang J, Yassin AK, Butaye P, Kelly P, Gong J, Guo W, Li J, Li M, Yang F, Feng Z, Jiang P, Song C, Wang Y, You J, Yang Y, Price S, Qi K, Kang K, Wang C*. Molecular detection of colistin resistance genes (*mcr-1*, *mcr-2* and *mcr-3*) in nasal/oropharyngeal and anal/cloacal swabs from pigs and poultry. *Scientific Reports*. 2018, In Press
8. Chen L, Zhang J, Wang J, Butaye P, Kelly P, Li M, Yang F, Gong J, Yassin AK, Guo W, Li J, Song C, Wang C*. Newly identified colistin resistance genes, *mcr-4* and *mcr-5*, in swabs from upper and lower alimentary tract of pigs and poultry in China. *PLoS One*. 2018, In Press

2017

1. Xu D, Zuo J, Chen Z, Lv X, Hu J, Wu X, Qi K, Mi R, Huang Y, Miao J, Jiang W, Wang S, Wang C*, Han X*. Different activated methyl cycle pathways affect the pathogenicity of avian pathogenic *Escherichia coli*. *Veterinary Microbiology*, 2017. 211:160-168
2. Li M, Jelocnik M, Yang F, Gong J, Kaltenboeck B, Polkinghorne A, Feng Z, Pannekoek Y, Borel N, Song C, Jiang P, Li J, Zhang J, Wang Y, Wang J, Zhou X, Wang C*. Asymptomatic infections with highly polymorphic *Chlamydia suis* are ubiquitous in pigs. *BMC Vet Res*. 2017. 13(1):370.
3. Kelly PJ, Köster L, Li J, Zhang J, Huang K, Branford GC, Marchi S, Vandenplas M, Wang C*. Survey of vector-borne agents in feral cats and first report of *Babesia gibsoni* in cats on St Kitts, West Indies. *BMC Vet Res*. 2017. 13(1):331.

4. Yassin AK, Zhang J, Wang J, Chen L, Kelly P, Butaye P, Lu G, Gong J, Li M, Wei L, Wang Y, Qi K, Han X, Price S, Hathcock T, Wang C*. Identification and characterization of mcr mediated colistin resistance in extraintestinal *Escherichia coli* from poultry and livestock in China. *FEMS Microbiol Lett.* 2017.
5. Li M, Zhang X, Huang K, Qiu H, Zhang J, Kang Y, Wang C*. Presence of *Chlamydia trachomatis* and *Mycoplasma* spp., but not *Neisseria gonorrhoeae* and *Treponema pallidum*, in women undergoing an infertility evaluation: high prevalence of tetracycline resistance gene *tet(M)*. *AMB Express.* 2017. 7(1):206.
6. Zhang J, Wang J, Chen L, Yassin AK, Kelly P, Butaye P, Li J, Gong J, Cattley R, Qi K, Wang C*. Housefly (*Musca domestica*) and blow fly (*Protophormia terraenovae*) as vectors of colistin resistance genes-carrying bacteria. *Appl Environ Microbiol.* 2017. pii: AEM.01736-17
7. Guo W, Jelocnik M, Li J, Sachse K, Polkinghorne A, Pannekoek Y, Kaltenboeck B, Gong J, You J, Wang C*. From genomes to genotypes: Molecular epidemiological analysis of *Chlamydia gallinacea* reveals a high level of genetic diversity for this newly emerging chlamydial pathogen. *BMC Genomics*, 2017, 18(1):949
8. Li L, Luther M, Macklin K, Pugh D, Li J, Zhang J, Roberts J, Kaltenboeck B, Wang C*. *Chlamydia gallinacea*: a widespread emerging *Chlamydia* agent with zoonotic potential in backyard poultry. *Epidemiol Infect.* 2017; 145(13):2701-2703.
9. Yassin AK, Gong J, Kelly P, Lu G, Guardabassi L, Wei L, Han X, Qiu H, Price S, Cheng D, Wang C*. Antimicrobial resistance in clinical *Escherichia coli* isolates from poultry and livestock, China. *PLoS One.* 2017 12(9):e0185326.
10. Tan L, Han S, Ding S, Xiao W, Ding Y, Qian L, Wang C, Gong W*. Chitosan nanoparticle-based delivery of fused NKG2D-IL-21 gene suppresses colon cancer growth in mice. *Int J Nanomedicine.* 2017;12:3095-3107.
11. Yang Y, Wang Y, Poulsen E, Ransburgh R, Liu X, An B, Lu N, Anderson G, Wang C*, Bai J*. Genotyping *Brucella canis* isolates using a highly discriminatory multilocus variable-number tandem-repeat analysis (MLVA) assay. *Sci Rep.* 2017;7(1):1067.
12. Gong J, Kelly P, and Wang C*. Prevalence and antimicrobial resistance of *Salmonella enterica* serovar Indiana in China (1984-2016). *Zoonoses and Public Health.* doi: 10.1111/zph.12328, 2017
13. Zhang J, Wang L, Kelly P, Li J, Price S, and Wang C*. First molecular characterization of feline immunodeficiency virus in domestic cats from mainland China. *PLoS One* 12(1):e0169739, 2017
14. Wu X, Xu D, Jin Y, LV X, HU J, Mi R, Huang Y, Wang C, Chen Z, Han X. Catalytic activity of *Riemerella anatipestifer* Mtan on the substrate S-adenosylhomocysteine. *Microbiology China.* 2017, 44(5):1165-1170
15. Xu D, Wu X, Jing Y, Zuo J, Mi R, Huan Y, Chen Z, Wang C*, Han X*. Catalytic activity of *Brucella abortus* SahH in activated methionine cycle. *Journal of Nanjing Agricultural University.* 2017, 40(4): 697-702

2016

1. Yang Y, Kelly P, Bai J*, Zhang R, and Wang C*. First molecular characterization of bovine leukemia virus infections in the Caribbean. *PLoS One* 11(12):e0168379, 2016

2. Zhang J, John Kelly P, Lu G, Cruz-Martinez L, Wang C*. *Rickettsia* in mosquitoes, Yangzhou, China. *Emerging Microbes & Infections* 5(10):e108, 2016
3. Qiu H, Kelly P, Zhang J, Luo Q, Yang Y, Mao Y, Yang Z, Li J, Wu H and Wang C*. Molecular detection of *Anaplasma* spp. and *Ehrlichia* spp. in ruminants from twelve provinces of China. *Canadian Journal of Infectious Diseases and Medical Microbiology*. 2016:9183861, 2016
4. Li J, Guo W, Kaltenboeck B, Sachse K, Yang Y, Luan L, You J, Huang K, Qiu H, Wang Y, Li M, Yang Z, Wang C*. *Chlamydia pecorum* is the endemic intestinal species in cattle while *C. gallinacea*, *C. psittaci* and *C. pneumoniae* associate with sporadic systemic infection. *Veterinary Microbiology* 193:93-9, 2016
5. Luan L, Sun Z, Kaltenboeck B, Huang K, Li M, Peng D, Xu X, Ye J, Li J, Guo W, and Wang C*. Detection of influenza A virus from live-bird market poultry swab samples in China by a pan-IAV, one-step reverse-transcription FRET-PCR. *Scientific Reports* 2016; 6:30015
6. Xie Q, Zhang J, Shao H, Wan Z, Tian X, Yang J, Pang M, Qian K, Gao W, Wang C, Qin A, and Ye J. Development of a novel immuno-PCR for detection of avian leukosis virus. *Journal of Virological Methods*. 2016; 236:25-28
7. Ye J*, Liang G, Zhang J, Wang W, Song N, Wang P, Zheng W, Xie Q, Shao H, Wan Z, Wang C, Chen H, Gao W, and Qin A. Outbreaks of serotype 4 fowl adenovirus with novel genotype, China. *Emerging Microbes and Infections*. 2016; 5:e50
8. Guo W, Li J, Kaltenboeck, Fan W, and Wang C*. *Chlamydia gallinacea*, not *C. psittaci*, is the endemic chlamydial species in chicken (*Gallus gallus*). *Scientific Reports*. 2016; 6:19638
9. Yang Y, Fan W, Mao Y, Yang Z, Lu G, Zhang R, Zhang H, Szeto C, and Wang C*. Bovine leukemia virus infection in cattle of China: association with reduced milk production and increased somatic cell score. *Journal of Dairy Science*. 2016; 99(5):3688-3697
10. Zhang R, Jiang J, Sun W, Zhang J, Huang K, Gu X, Yang Y, Xu X, Shi Y, and Wang C*. Lack of association between bovine leukemia virus and breast cancer in Chinese patients. *Breast Cancer Research*. 2016
11. Gong J, Wang C*, Shi S, Bao H, Zhu C, Kelly P, Zhuang L, Lu G, Dou X, Wang R, Xu B, and Zou J. Highly drug-resistant *Salmonella enterica* serovar Indiana clinical isolates recovered from broilers and poultry workers with diarrhea in China. *Antimicrobial Agents and Chemotherapy*. 2016; 60(3):1943-1947
12. El-Mahallawy HS, Kelly P, Zhang J, Yang Y, Zhang H, Wei L, Mao Y, Yang Z, Zhang Z, Fan W, and Wang C*. High seroprevalence of *Coxiella burnetii* in dairy cattle in China. *Tropical Animal Health and Production*. 2016; 48(2):423-426
13. Gong J, Linlin Zhuang L, Zhu C, Shi S, Zhang D, Zhang L, Yu Y, Dou X, Xu B, and Wang C*. Loop-mediated isothermal amplification of the *sefA* gene for rapid detection of *Salmonella* Enteritidis and *Salmonella* Gallinarum in chickens. *Foodborne Pathogens and Disease*. 2016; 48(2):423-426
14. El-Mahallawy HS, Kelly P, Zhang J, Yang Y, Wei L, Tian L, Fan W, Zhang Z, and Wang C*. Serological and molecular evidence of *Coxiella burnetii* in samples taken from humans and animals in China. *Annals of Agricultural and Environmental Medicine*. 2016; 23(1):87-91

2015

1. Zhang J, Kelly K, Li J, Xu C, and Wang C*. Molecular detection of *Theileria* spp. in livestock on five Caribbean islands. *BioMed Research International*. 2015; 2015:624728
2. Li J, Kelly P, Zhang J, Xu C, and Wang C*. Development of a pan-*Babesia* FRET-qPCR and a survey of livestock from five Caribbean islands. *BMC Veterinary Research*. 2015; 11:246
3. Xu D, Zhang J, Shi Z; Song C, Zheng X, Zhang Y, Hao Y, Dong H, Wei L, El-Mahallawy HS, Kelly P, Xiong W, Wang H, Li J, Zhang X, Gu J, and Wang C*. Molecular detection of vector-borne agents in dogs from ten provinces of China. *Parasites & Vectors*. In Press, 2015; 1:8:501
4. Zhang J, Kelly P, Guo W, Xu C, Wei L, Jongejan F, Loftis A and Wang C*. Development of a generic Ehrlichia FRET-qPCR and investigation of ehrlichioses in domestic ruminants on five Caribbean islands. *Parasites & Vectors*. 2015; 8:506
5. Ye J*, Tian X, Xie Q, Zhang Y, Sheng Y, Zhang Z, Wang C, Zhu H, Wang Y, Shao H, and Qin A. Avian Gyrovirus 2 DNA in fowl from live poultry markets and in healthy humans, China. *Emerging Infectious Diseases*. 2015; 21(8):1486-1488
6. Lu G, Zhang J, Zhang C, Li X, Shi D, Yang Z, and Wang C*. One-step reverse-transcription FRET-PCR for differential detection of five *Ebolavirus* species. *PLoS One*. 2015; 10(5):e0126281
7. El-Mahallawy HS, Lu G, Kelly P, Xu D, Li Y, Fan W, and Wang C*. Q fever in China: a systematic review (1989-2013). *Epidemiology and Infection*. 2015; 143(4): 673-681

2014

1. Zhang J, Lu G, Kelly P, Zhang Z, Wei L, Yu D and Wang C*. First report of *Rickettsia felis* in China. *BMC Infectious Diseases*. 2014; 14:682
2. Kelly P, Marabini L, Dutlow K, Zhang J, Loftis A, and Wang C*. Molecular detection of tick-borne pathogens in captive wild felids, Zimbabwe. *Parasites & Vectors*. 2014, 7(1):514
3. Yang Y, Mao Y, Kelly P, Yang Z, Luan L, Zhang J, Li J, El-Mahallawy HS, and Wang C*. A pan-*Theileria* FRET-qPCR survey for *Theileria* spp. in ruminants from nine provinces of China. *Parasites & Vectors*. 2014, 7:413
4. Zhuang L, Gong J, Li Q, Zhu C, Yu Y, Dou X, Liu X, Xu B, and Wang C*. Detection of *Salmonella* spp. by a loop-mediated isothermal amplification (LAMP) method targeting *bcfD* gene. *Letters in Applied Microbiology*. 2014; 59(6):658-664
5. Wei L., Kelly P, Ackerson K, El-Mahallawy HS, Kaltenboeck B, and Wang C*. Molecular detection of *Dirofilaria immitis*, *Hepatozoon canis*, *Babesia* spp., *Anaplasma platys*, and *Ehrlichia canis* in dogs on Costa Rica. *Acta Parasitologica*. 2014; 60(1):21-25
6. Wei L, Kelly P, Ackerson K, Zhang J, El-Mahallawy HS, Kaltenboeck B, and Wang C*. First report of *Babesia gibsoni* in Central America and survey for vector-borne infections in dogs from Nicaragua. *Parasites & Vector*. 2014; 25:7:126
7. Wei L, Kelly P, Zhang J, Yang Y, Zheng X, Tao J, Zhang Z, and Wang C*. Use of a universal hydroxymethylbilane synthase (HMBS)-based PCR as an endogenous internal control and to enable typing of mammalian DNAs. *Applies Microbiology and Biotechnology*. 2014; 98(12):5579-5587
8. Gong J, Zhang J, Xu M, Zhu C, Yu Y, Liu X, Kelly P, Xu B, and Wang C*. Prevalence and

fimbrial genotype distribution of poultry *Salmonella* spp. isolates in China (2006-2012). *Applied and Environmental Microbiology*. 2014; 80(2):687-693

9. Xu C, Loftis A, Ahluwalia SK, Gao D, Verma A, Wang C, and Kaltenboeck B*. Diagnosis of canine leptospirosis by a highly sensitive FRET-PCR targeting the *lig* genes. *PLoS One*. 2014; 9(2):e89507

2013

1. Zhang J, Wei L, Freeman M, Jaegeron K, Kelly P, Gong J, Xu B, Pan Z, and Wang C*. Detection of *Salmonella* spp. using a generic and differential FRET-PCR. *PLoS One*. 2013; 8(10):e76053
2. Dutton CS, Revan F, Wang C, Xu C, Norton TM, Steward KM, Kaltenboeck B, and Soto E*. *Salmonella enterica* prevalence in leatherback sea turtles (*Dermochelys coriacea*) in St. Kitts, West Indies. *Journal of Zoo and Wildlife Medicine*. 2013; 44(3):765-768
3. Loftis A*, Kelly PJ, Freeman M, Beeler, and Wang C. Tick-borne pathogens and disease of dogs in St Kitts, West Indies. *Veterinary Parasitology*. 2013; 196(1-2):44-49
4. Kelly PJ, Xu C, Lucas H, Loftis A, Abete J, Zeoli F, Stevens A, Jaegersen K, Ackerson K, Gessner A, Kaltenboeck B, and Wang C*. Ehrlichiosis, babesiosis, anaplasmosis and hepatozoonosis in dogs from St Kitts, West Indies. *PLoS One*. 2013; 8(1):e53450

2012

1. Wang C*, Kaltenboeck B, and Freeman M (Eds.). *Veterinary PCR Diagnostics*. Bentham Science Publishers, 2012
2. Wang C, Mount J, Jung E, Butler J, Blagburn BL, and Kaltenboeck B*. Flea feeding patterns in dogs analyzed by real-time PCR of the mammalian hydroxymethylbilane synthase (HMBS) gene. *Parasites & Vectors*. 2012; 5:4
3. Wu H*, Jaegersen K, Robertson BK, Villafane R and Wang C. Quantitative PCR as a Diagnostic Technique in Veterinary Parasitology. In: *Veterinary PCR Diagnostics*, Bentham Science Publishers p98-105, 2012
4. Yang L, Zhang LY, Wang C, Wang B, Wang XM, and Zeng SM*. Differential expression pattern of ISG15 in different tissue explants and cells induced by various interferons. *Microbiology and Immunology*. 2012; 56(3):163-170

2011

1. Kelly PJ, Stocking R, Xu C, Philips N, Kaltenboeck B, and Wang C*. Identification of feline immunodeficiency virus subtype-B on St. Kitts, West Indies by quantitative PCR. *Journal of Infection in Developing Countries*. 2011; 5 (6), 480-483
2. Wang C, Kaltenboeck B, and Konrad Sachse*. *Chlamydomphila*. In: *Molecular detection of human bacterial pathogens*. Edited by Dongyou Liu, CRC Press, Taylor & Francis Group 2011. Pages: 523-535
3. Shaheen BW, Boothe DM*, Oyarzabal OM, and Wang C, and Johnson CM. Evaluation of the contribution of *gyrA* mutation and efflux pumps to fluoroquinolone and multi-drug resistance in pathogenic *Escherichia coli* isolates

from the dogs and cats. *American Journal of Veterinary Research*. 2011; 72: 25-32

2010

1. Li Y, Ahluwalia SK, Borovkov A, Loskutov A, Wang C, Gao D, Poudel A, Sykes KF, and Kaltenboeck B*. Highly efficient *Chlamydia pneumoniae* vaccine candidates identified from an expression library immunization screen. *Vaccine*. 2010; 28:1598-1605
2. Wang C, Johnson CM, Ahluwalia SK, Chowdhury E, Li Y, Gao D, Poudel A, Rahman KHS, and Kaltenboeck B*. A novel tricolor-fluorescence PCR quantitatively detects and differentiates feline immunodeficiency virus and separates infected from vaccinated cats. *Journal of Clinical Microbiology*. 2010; 48:1667-1672
3. Wang C*. *Chlamydia pneumoniae* Lung Infection in Two Inbred Mouse Strains. LAP Lambert Academic Publishing 2010
4. Wang C*, and Kaltenboeck B. Infectious causes of chronic inflammatory diseases: fact or fiction? *World Journal of Diabetes*. 2010; 1:27-35
5. Wang C, Ahluwalia SK, Li Y, Gao D, Poudel A, Chowdhury E, Boudreaux MK, and Kaltenboeck B* . Frequency and therapy monitoring of canine *Babesia* spp. infection by high-resolution melting curve quantitative FRET-PCR. *Veterinary Parasitology*. 2010; 168:11-18

2009

1. Shaheen BW, Wang C, Johnson CM, Kaltenboeck B, and Boothe DM*. Detection of fluoroquinolone resistance level in clinical canine and feline *Escherichia coli* pathogens using rapid and early real-time PCR assay. *Veterinary Microbiology*. 2009; 139:379-385
2. Wang C, Gao D, and Kaltenboeck B*. Acute *Chlamydia pneumoniae* re-infection accelerates the development of insulin resistance and diabetes in obese C57BL/6 mice. *The Journal of Infectious Diseases*. 2009; 200:279-287

2008

1. Wang C, van Ginkel F, Kim T, Li D, Li Y, Dennis JC, and Kaltenboeck B*. Temporal delay of peak T cell immunity determines *Chlamydia pneumoniae* pulmonary disease in mice. *Infection and Immunity*. 2008; 76:4913-4923
2. Li Y, Wang C, Allen KE, Little SE, Ahluwalia SK, Gao D, Macintire DK, Blagburn BL, and Kaltenboeck B*. Diagnosis of canine *Hepatozoon* spp. infection by quantitative PCR. *Veterinary Parasitology*. 2008; 157:50-58
3. Min-Oo G, Lindqvist L, Vaglenov A, and Wang C, Fortin P, Li Y, Kaltenboeck B, and Gros F* . Genetic control of susceptibility to pulmonary infection with *Chlamydia pneumoniae* in the mouse. *Genes and Immunity*. 2008; 9:383-388

2007

1. Wang C, Kim T, Gao D, Vaglenov A, and Kaltenboeck B*. Rapid high-yield mRNA extraction for reverse-transcription PCR. *Journal of Biochemical and Biophysical Methods*. 2007; 70:507-509

2. Wang C, and Kaltenboeck B*. Application of real-time PCR in the molecular microbiology diagnostics. *BIOforum Europe*. 2007; 3: 37-40

2006

1. Li D, Borovkov A, Vaglenov A, Wang C, Kim T, Gao D, Sykes KF, and Kaltenboeck B* . Mouse model of respiratory Chlamydia pneumoniae infection for a genomic screen of subunit vaccine candidates. *Vaccine*. 2006; 24: 2917-2927
2. Diaz-Perez SV, Ferguson DO, Wang C, Csankovszki G, Wang C, Tsai S, Dutta D, Perez V, Kim S, Eller CD, Salstrom J, Ouyang Y, Teitell MA, Kaltenboeck B, Chess A, Huang S, and Marahrens Y*. A deletion at the mouse *Xist* gene exposes trans-effects that alter the heterochromatin of the inactive X chromosome and the replication time and DNA stability of both X chromosomes. *Genetics*. 2006; 174:1115-1133

2005

1. Wang C*, Norton RA, Macklin KS, and Krehling JT. The effect of chicken anemia and infectious bursal disease vaccines and Marek's disease on the development of cellulites and myositis lesions in floored-reared MHC-defined broiler chickens. *Journal of Applied Animal Research*. 2005; 27:1-5
2. Wang C*, Macklin KS, Krehling JT, and Norton RA. Influence of infectious bursal disease and chicken anemia vaccines on the development of cellulitis and myositis lesions in cage-reared broilers. *Journal of Applied Animal Research*. 2005; 27:65-69
3. Kaltenboeck B*, and Wang C. Advances in Real Time PCR: Application to clinical laboratory diagnostics. In: Advances in Clinical Chemistry Editor: Greg Makowski. ELSEVIER. 2005; 40:219-259
4. Li D, Vaglenov A, Kim T, Wang C, Gao D, and Kaltenboeck B* . High-yield culture and purification of *Chlamydiaceae* bacteria. *Journal of Microbiological Methods*. 2005; 61:17-24

2004

1. Wang C, Gao D, Vaglenov A, and Kaltenboeck B*. One-step real-time duplex reverse transcription PCRs simultaneously quantify analyte and housekeeping gene mRNAs. *BioTechniques*. 2004; 36(3): 508-516, 518-519