HOKKAIDO UNIVERSITY

Title	INFORMATION: Publications by the staff of the Graduate School of Veterinary Medicine
Citation	Japanese Journal of Veterinary Research, 63(Supplement 2), S101-S122
Issue Date	2015-07
Doc URL	https://hdl.handle.net/2115/59724
Type	other
File Information	JJVR63-Supple2_S101-122.pdf

Hokkaido University Collection of Scholarly and Academic Papers : HUSCAP

Japanese Journal of Veterinary Research 63(Supplement 2): S101–S122, 2015

INFORMATION

PUBLICATIONS BY THE STAFF OF THE GRADUATE SCHOOL OF VETERINARY MEDICINE

Laboratory of Anatomy

Original articles

1) Hirano, M., Yoshii, K., Sakai, M., Hasebe, R., Ichii, O. and Kariwa, H. 2014. Tick-borne flaviviruses alter membrane structure and replicate in dendrites of primary mouse neuronal cultures. *J. Gen. Virol.*, **95**: 849–861. (doi: 10.1099/vir.0.061432–0)
2) Kimura, J., Ichii, O., Nakamura, T., Horino, T., Otsuka, S. and Kon, Y. 2014. BXSB-type genome causes murine autoimmune glomerulonephritis: pathological correlation between telomeric region of chromosome 1 and *Yaa*. *Genes Immun.*, **15**: 182–189. (doi: 10.1038/gene.2014.4)
3) Elewa, Y., Ichii, O., Otsuka, S., Hashimoto, Y. and Kon, Y. 2014. Characterization of mouse mediastinal fat-associated lymphoid clusters. *Cell Tissue Res.*, **357**: 731–741. (doi: 10.1007/s00441-014-1889-6)
4) Ichii, O., Otsuka, S., Ohta, H., Yabuki, A., Horino, T. and Kon, Y. 2014. MicroRNA expression profiling of cat and dog kidneys. *Res. Vet. Sci.*, **6**: 299–303. (doi: 10.1016/j.rvsc.2014.01.003)
5) Yasui, H., Takeuchi, R., Nagane, M., Meike, S., Nakamura, Y., Yamamori, T., Ikenaka, Y., Kon, Y., Murotani, H., Oishi, M., Nagasaki, Y. and Inanami, O. 2014. Radiosensitization of tumor cells through endoplasmic reticulum stress induced by PEGylated nanogel containing gold nanoparticles. *Cancer Lett.*, **347**: 151–158. (doi: 10.1016/j.canlet.2014.02.005)
6) Okada, Y., Nakamura, T., Ichii, O., Otsuka, S. and Kon, Y. 2014. Pathogenetic role of an autoimmune susceptibility locus derived from MRL/MpJ strain chromosome 1 in chronic pancreas inflammation. *Lupus*, **23**: 1112–1123. (doi: 10.1177/0961203314536249)
7) Nakamura, T., Sakata, Y., Otsuka-Kanazawa, S., Ichii, O., Chihara, M., Nagasaki, K., Namiki, Y. and Kon, Y. 2014. Genomic analysis of the appearance of ovarian mast cells in neonatal MRL/MpJ mice. *PLOS ONE*, **9**: e100617. (doi: 10.1371/journal.pone.0100617)
8) Chihara, M., Nakamura, T., Sakakibara, N., Otsuka, S., Ichii, O. and Kon, Y. 2014. The onset of heat-induced testicular calcification in mice: involvement of the telomeric locus on chromosome 1. *Am. J. Pathol.*, **184**: 2480–2492. (doi: 10.1016/j.ajpath.2014.06.004)
9) Ichii, O., Otsuka-Kanazawa, S., Nakamura, T., Ueno, M., Kon, Y., Chen, W., Rosenberg, A. Z. and Kopp, J. B. 2014. Podocyte injury caused by indoxyl sulfate, a uremic toxin and aryl-hydrocarbon receptor ligand. *PLOS ONE*, **9**: e108448. (doi: 10.1371/journal.pone.0108448)
10) Kimura, J., Ichii, O., Miyazono, K., Nakamura, T., Horino, T., Otsuka-Kanazawa, S. and Kon, Y. 2014. Overexpression of Toll-like receptor 8 correlates with the progression of podocyte injury in murine autoimmune glomerulonephritis. *Sci. Rep.*, **4**: 7290. (doi: 10.1038/srep07290)
11) Ichii, O., Otsuka-Kanazawa, S., Horino, T., Kimura, J., Nakamura, T., Matsumoto, M., Toi, M. and Kon, Y. 2014. Decreased miR-26a expression correlates with the progression of podocyte injury in autoimmune glomerulonephritis. *PLOS ONE*, **9**: e110383. (doi: 10.1371/journal.pone.0110383)

Laboratory of Physiology

Original articles

1) Moustafa, A. and Habara, Y. 2014. A novel role for carbon monoxide as a potent regulator of intracellular Ca^{2+} and nitric oxide in rat pancreatic acinar cells. *Am. J. Physiol. Cell Physiol.*, **307**: C1039-C1049. (doi: 10.1152/ajpcell.00252.2014)
2) Moustafa, A. and Habara, Y. 2014. Hydrogen sulfide regulates Ca^{2+} homeostasis mediated by concomitantly produced nitric oxide via a novel synergistic pathway in exocrine pancreas. *Antioxid. Redox Signal.*, **20**: 747–758. (doi: 10.1089/ars.2012.5108)
3) Mizukawa, H., Ikenaka, Y., Nakayama, S. M. M., Sakamoto, K. Q., Fujita, S. and Ishizuka, M. 2014. Contamination status and possibility of toxic effects of co-planar polychlorinated biphenyls, polycyclic aromatic hydrocarbons, and dichlorodiphenyltrichloroethane in large Japanese field mouse (*Apodemus speciosus*) collected from Hokkaido and Aomori. *Jpn. J. Vet. Res.*, **62**: 107–115. (doi: 10.14943/jjvr.62.3.107)

Laboratory of Biochemistry

Original articles

1) Teramura, Y., Terao, A., Okada, Y., Tomida, J., Okamatsu-Ogura, Y. and Kimura, K. 2014. Organ-specific changes in norepinephrine turnover against various stress conditions in thermoneutral mice. *Jpn. J. Vet. Res.*, **62**: 117–127. (doi: 10.14943/jjvr.62.3.117)
2) Hiyoshi, H., Terao, A., Okamatsu-Ogura, Y. and Kimura, K. 2014. Characteristics of sleep and wakefulness in wild-derived inbred mice. *Exp. Anim.*, **63**: 205–213. (doi: 10.1538/expanim.63.205)
3) Sato, M. K., Toda, M., Inomata, N., Maruyama, H., Okamatsu-Ogura, Y., Arai, F., Ono, T., Ishijima, A. and Inoue, Y. 2014. Temperature changes in brown adipocytes detected with a bimaterial microcantilever. *Biophys. J.*, **106**: 2458–2464. (doi: 10.1016/j.bpj.2014.04.044)

Review article

1) Fukano, K. and Kimura, K., 2014. Measurement of enolase activity in cell lysates. In: Conceptual background and bioenergetic/mitochondrial aspects of oncometabolism. *Methods in Enzymology*, **542**: 115–124 (Chapter 6). (doi: 10.1016/B978-0-12-416618-9.00006-6)

Labolatory of Pharmacology

Original articles

1) Yamaguchi, S. and Ishikawa, T. 2014. AHCYL2 (long-IRBIT) as a potential regulator of the electrogenic Na^+-HCO_3^- cotransporter NBCe1-B. *FEBS Lett.*, **588**: 672–677. (doi: 10.1016/j.febslet.2013.12.036)
2) Miyamoto, R., Otsuguro, K., Yamaguchi, S. and Ito, S. 2014. Contribution of cysteine aminotransferase and mercaptopyruvate sulfur transferase to hydrogen sulfide production in peripheral neurons. *J. Neurochem.*, **130**: 29–40. (doi: 10.1111/jnc.12698)
3) Yamaguchi, S., Tanimoto, A., Otsuguro, K.,

Hibino, H. and Ito, S. 2014. Negatively-charged amino acids near and in transient receptor potential (TRP) domain of TRPM4 channel are one determinant of its Ca^{2+} sensitivity. *J. Biol. Chem.*, **289**: 35265–35282. (doi: 10.1074/jbc.M114.606087)

Laboratory of Microbiology

Original articles

1) Abdo, W., Haridy, M., Katou, Y., Goto, M., Mizoguchi, T., Sakoda, Y., Sakai, H. and Yanai, T. 2014. Pathological and immunohistochemical findings of natural highly pathogenic avian influenza infection in tufted ducks during 2010–2011 outbreaks in Japan. *J. Vet. Med. Sci.*, **76**: 1285–1290. (doi: 10.1292/jvms.14-0084)
2) Chu, D. H., Sakoda, Y., Nishi, T., Hiono, T., Shichinohe, S., Okamatsu, M. and Kida, H. 2014. Potency of an inactivated influenza vaccine prepared from A/duck/Mongolia/119/2008 (H7N9) against the challenge with A/Anhui/1/2013 (H7N9). *Vaccine*, **32**: 3473–3479. (doi: 10.1016/j.vaccine.2014.04.060)
3) Haredy, A. M., Yamada, H., Sakoda, Y., Okamatsu, M., Yamamoto, N., Omasa, T., Mori, Y., Kida, H., Okamoto, S., Okuno, Y. and Yamanishi, K. 2014. Neuraminidase gene homology contributes to the protective activity of influenza vaccines prepared from the influenza virus library. *J. Gen. Virol.*, **95**: 2365–2371. (doi: 10.1099/vir.0.067488-0)
4) Hiono, T., Okamatsu, M., Nishihara, S., Takase-Yoden, S., Sakoda, Y. and Kida, H. 2014. A chicken influenza virus recognizes fucosylated alpha2,3 sialoglycan receptors on the epithelial cells lining upper respiratory tracts of chickens. *Virology*, **456–457**: 131–138. (doi: 10.1016/j.virol.2014.03.004)
5) Itoh, Y., Yoshida, R., Shichinohe, S., Higuchi, M., Ishigaki, H., Nakayama, M., Pham, V. L., Ishida, H., Kitano, M., Arikata, M., Kitagawa, N., Mitsuishi, Y., Ogasawara, K., Tsuchiya, H., Hiono, T., Okamatsu, M., Sakoda, Y., Kida, H., Ito, M., Quynh Mai, L., Kawaoka, Y., Miyamoto, H., Ishijima, M., Igarashi, M., Suzuki, Y. and Takada, A. 2014. Protective efficacy of passive immunization with monoclonal antibodies in animal models of H5N1 highly pathogenic avian influenza virus infection. *PLOS Pathog.*, **10**: e1004192. (doi: 10.1371/journal.ppat.1004192)
6) Kodama, M., Yoshida, R., Hasegawa, T., Izawa, M., Kitano, M., Baba, K., Noshi, T., Seki, T., Okazaki, K., Tsuji, M., Kanazu, T., Kamimori, H., Homma, T., Kobayashi, M., Sakoda, Y., Kida, H., Sato, A. and Yamano, Y. 2014. The relationship between in vivo antiviral activity and pharmacokinetic parameters of peramivir in influenza virus infection model in mice. *Antiviral Res.*, **109**: 110–115. (doi: 10.1016/j.antiviral.2014.06.016)
7) Kumagai, T., Nakayama, T., Okuno, Y., Kase, T., Nishimura, N., Ozaki, T., Miyata, A., Suzuki, E., Okafuji, T., Okafuji, T., Ochiai, H., Nagata, N., Tsutsumi, H., Okamatsu, M., Sakoda, Y., Kida, H. and Ihara, T. 2014. Humoral immune response to influenza A(H1N1)pdm2009 in patients with natural infection and in vaccine recipients in the 2009 pandemic. *Viral Immunol.*, **27**: 368–374. (doi: 10.1089/vim.2014.0010)
8) Maruyama, J., Miyamoto, H., Kajihara, M., Ogawa, H., Maeda, K., Sakoda, Y., Yoshida, R. and Takada, A. 2014. Characterization of the envelope glycoprotein of a novel filovirus, lloviu virus. *J. Virol.*, **88**: 99–109. (doi: 10.1128/JVI.02265-13)
9) Nagai, M., Aoki, H., Sakoda, Y., Kozasa, T., Tominaga-Teshima, K., Mine, J., Abe, Y., Tamura, T., Kobayashi, T., Nishine, K., Tateishi, K., Suzuki, Y., Fukuhara, M., Ohmori, K., Todaka, R., Katayama, K.,

Mizutani, T., Nakamura, S., Kida, H. and Shirai, J. 2014. Molecular, biological, and antigenic characterization of a Border disease virus isolated from a pig during classical swine fever surveillance in Japan. *J. Vet. Diagn. Invest.*, **26**: 547–552. (doi: 10.1177/1040638714541837)

10) Nishi, T., Okamatsu, M., Sakurai, K., Chu, H. D., Thanh, L. P., van Nguyen, L., van Hoang, N., Thi, D. N., Sakoda, Y. and Kida, H. 2014. Genetic analysis of an H5N2 highly pathogenic avian influenza virus isolated from a chicken in a live bird market in Northern Vietnam in 2012. *J. Vet. Med. Sci.*, **76**: 85–87. (doi: 10.1292/jvms.13-0311)
11) Nishi, T., Sakoda, Y., Okamatsu, M. and Kida, H. 2014. Potency of an inactivated influenza vaccine prepared from A/duck/Hong Kong/960/1980 (H6N2) against a challenge with A/duck/Vietnam/OIE-0033/2012 (H6N2) in mice. *Arch. Virol.*, **159**: 2567–2574. (doi: 10.1007/s00705-014-2107-2)
12) Ogiwara, H., Yasui, F., Munekata, K., Takagi-Kamiya, A., Munakata, T., Nomura, N., Shibasaki, F., Kuwahara, K., Sakaguchi, N., Sakoda, Y., Kida, H. and Kohara, M. 2014. Histopathological evaluation of the diversity of cells susceptible to H5N1 virulent avian influenza virus. *Am. J. Pathol.*, **184**: 171–183. (doi: 10.1016/j.ajpath.2013.10.004)
13) Sakurai, A., Takayama, K., Nomura, N., Yamamoto, N., Sakoda, Y., Kobayashi, Y., Kida, H. and Shibasaki, F. 2014. Multi-colored immunochromatography using nanobeads for rapid and sensitive typing of seasonal influenza viruses. *J. Virol. Methods*, **209**: 62–68. (doi: 10.1016/j.jviromet.2014.08.025)
14) Tamura, T., Nagashima, N., Ruggli, N., Summerfield, A., Kida, H. and Sakoda, Y. 2014. N^{pro} of classical swine fever virus contributes to pathogenicity in pigs by preventing type I interferon induction at local replication sites. *Vet. Res.*, **45**: 47. (doi: 10.1186/1297-9716-45-47)

Laboratory of Infectious Diseases

Original articles

1) Ikebuchi, R., Konnai, S., Okagawa T., Yokoyama, K., Nakajima, C., Suzuki, Y., Murata, S. and Ohashi K. 2014. Influence of PD-L1 cross-linking on cell death in PD-L1-expressing cell lines and bovine lymphocytes. *Immunology*, **142**: 551–561. (doi: 10.1111/imm.12243)
2) Hidano, A., Konnai, S., Yamada, S., Yoshimura, H., Githaka, N., Isezaki, M., Higuchi, H., Nagahata, H., Ito, T., Takano, A., Ando, S., Kawabata, H., Murata S. and Ohashi, K. 2014. Suppressive effects of neutrophil by Salp16-like salivary gland proteins from *Ixodes persulcatus* Schulze tick. *Insect Mol. Biol.*, **23**: 466–474. (doi: 10.1111/imb.12101)
3) Githaka, N., Konnai, S., Bishop, R., Odongo, D., Lekolool, I., Kariuki, E., Gakuya, F., Kamau, L., Isezaki, M., Murata, S. and Ohashi, K. 2014. Identification and sequence characterization of novel *Theileria* genotypes from the waterbuck (*Kobus defassa*) in a *Theileria parva*-endemic area in Kenya. *Vet. Parasitol.*, **202**: 180–193. (doi: 10.1016/j.vetpar.2014.02.056)
4) Maekawa, N., Konnai, S., Ikebuchi, R., Okagawa, T., Adachi, M., Takagi, S., Kagawa, Y., Nakajima, C., Suzuki, Y., Murata, S. and Ohashi, K. 2014. Expression of PD-L1 on canine tumor cells and enhancement of IFN-γ production from tumor infiltrating cells by PD-L1 blockade. *PLOS ONE*, **9**: e98415. (doi: 10.1371/journal.pone.0098415)
5) Ikebuchi, R., Konnai, S., Okagawa, T.,

Nishimori, A., Nakahara, A., Murata, S. and Ohashi, K. 2014. Differences in cellular function and viral protein expression between IgM ^{high} and IgM ^{low} B cells in bovine leukemia virus-infected cattle. *J. Gen. Virol.*, **95**: 1832–1842. (doi: 10.1099/vir.0.065011-0)

6) Nishimori, A., Konnai, S., Ikebuchi, R., Okagawa, T., Nakajima, C., Suzuki, Y., Mingala, C., Murata, S. and Ohashi, K. 2014. Identification and characterization of bovine programmed death-ligand 2. *Microbiol. Immunol.*, **58**: 388–397. (doi: 10.1111/1348-0421.12160)
7) Matsuyama-Kato, A., Murata, S., Isezaki, M., Takasaki, S., Kano, R., Konnai, S. and Ohashi, K. 2014. Expression analysis of programmed death ligand 2 in tumors caused by the avian oncovirus Marek's disease virus. *Arch. Virol.*, **159**: 2123–2136. (doi: 10.1007/s00705-014-2021-7)
8) Ali, A., Tirloni, L., Isezaki, M., Seixas, A., Konnai, S., Ohashi, K., da Silva, Vaz I. Jr. and Termignoni, C. 2014. Reprolysin metalloproteases from *Ixodes persulcatus*, *Rhipicephalus sanguineus* and *Rhipicephalus microplus* ticks. *Exp. Appl. Acarol.*, **63**: 559–578. (doi: 10.1007/s10493-014-9796-9)
9) Sato, K., Takano, A., Konnai, S., Nakao, M., Ito, T., Koyama, K., Kaneko, M., Ohnishi, M. and Kawabata H. 2014. Human *Borrelia miyamotoi* infections in Japan. *Emerg. Infect. Dis.*, **20**: 1391–1393. (doi: 10.3201/eid2008.131761)
10) Lee, K., Takano, A., Kaylor, K. R., Sashika, M., Shimozuru, M., Konnai, S., Kawabata, H. and Tsubota, T. 2014. A Relapsing fever group *Borrelia* sp. similar to *Borrelia lonestari* found among wild sika deer (*Cervus nippon yesoensis*) and *Haemaphysalis* spp. ticks in Hokkaido, Japan. *Ticks Tick Borne Dis.*, **5**: 841–847. (doi: 10.1016/j.ttbdis.2014.06.006)
11) Takano, A., Toyomane, K., Konnai, S., Ohashi, K., Nakao, M., Ito, T., Andoh, M., Maeda, K., Watarai, M., Sato, K. and Kawabata, H. 2014. Tick surveillance for relapsing fever spirochete *Borrelia miyamotoi* in Hokkaido, Japan. *PLOS ONE*, **9**: e104532. (doi: 10.1371/journal.pone.0104532)

Laboratory of Parasitology

Original articles

1) Alam, M. Z., Bhutto, A. M., Soomro, F. R., Baloch, J. H., Nakao, R., Kato, H., Schonian, G., Uezato, H., Hashiguchi, Y. and Katakura, K. 2014. Population genetics of *Leishmania* (*Leishmania*) *major* DNA isolated from cutaneous leishmaniasis patients in Pakistan based on multilocus microsatellite typing. *Parasit. Vectors*, **7**: 332. (doi: 10.1186/1756-3305-7-332)
2) Alam, M. Z., Nakao, R., Sakurai, T., Kato, H., Qu, J. Q., Chai, J. J., Chang, K. P., Schönian, G. and Katakura, K. 2014. Genetic diversity of *Leishmania donovani/infantum* complex in China through microsatellite analysis. *Infect. Genet. Evol.*, **22**: 112–119. (doi: 10.1016/j.meegid.2014.01.019)
3) Bawm, S., Shimizu, K., Hirota, J., Tosa, Y., Htun, L. L., Maw, N. N., Thein, M., Kato, H., Sakurai, T. and Katakura, K. 2014. Molecular prevalence and genetic diversity of bovine *Theileria orientalis* in Myanmar. *Parasitol. Int.*, **63**: 640–645. (doi: 10.1016/j.parint.2014.04.009)
4) Chiba, R., Amagai, Y., Tanaka, A., Katakura, K. and Matsuda, H. 2014. Nerve growth factor promotes killing of *Leishmania donovani* by macrophages through the induction of hydrogen peroxide. *Microbes Infect.*, **16**: 702–706. (doi: 10.1016/j.micinf.2014.06.001)
5) Ikeda, T., Yoshimura, M., Onoyama, K., Oku, Y., Nonaka, N. and Katakura, K. 2014. Where to deliver baits for deworming urban red

foxes for *Echinococcus multilocularis* control: new protocol for micro-habitat modeling of fox denning requirements. *Parasit. Vectors*, **7**: 357. (doi: 10.1186/1756-3305-7-357)
6) Mohanta, U. K., Ichikawa-Seki, M., Shoriki, T., Katakura, K. and Itagaki, T. 2014. Characteristics and molecular phylogeny of *Fasciola* flukes from Bangladesh, determined based on spermatogenesis and nuclear and mitochondrial DNA analyses. *Parasitol. Res.*, **113**: 2493–2501. (doi: 10.1007/s00436-014-3898-5)
7) Nzelu, C. O., Gomez, E. A., Caceres, A. G., Sakurai, T., Martini-Robles, L., Uezato, H., Mimori, T., Katakura, K., Hashiguchi, Y. and Kato, H. 2014. Development of a loop-mediated isothermal amplification method for rapid mass-screening of sand flies for *Leishmania* infection. *Acta Trop.*, **132**: 1–6. (doi: 10.1016/j.actatropica.2013.12.016)
8) Nzelu, C. O., Kato, H., Puplampu, N., Desewu, K., Odoom, S., Wilson, M. D., Sakurai, T., Katakura, K. and Boakye, D. A. 2014. First detection of *Leishmania* tropica DNA and *Trypanosoma* species in *Sergentomyia* sand flies (Diptera: Psychodidae) from an outbreak area of cutaneous leishmaniasis in Ghana. *PLOS Negl. Trop. Dis.*, **8**: e2630. (doi: 10.1371/journal.pntd.0002630)
9) Calvopiña, M., Romero, D., Kato, H. and Hashiguchi, Y. 2014. Cutaneous sporotrichoid lesion in a patient from a subtropical region of Ecuador. *Enferm. Infecc. Microbiol. Clin.*, **32**: 465–466. (doi: 10.1016/j.eimc.2014.02.007)
10) Locatelli, F. M., Cajal, S. P., Barroso, P. A., Lauthier, J. J., Mora, M. C., Juarez, M., Kato, H., Nasser, J. R., Hashiguchi, Y., Korenaga, M. and Marco, J. D. 2014. The isolation and molecular characterization of *Leishmania* spp. from patients with American tegumentary leishmaniasis in northwest Argentina. *Acta Trop.*, **131**: 16–21. (doi: 10.1016/j.actatropica.2013.11.015)
11) Hashiguchi, K., Velez, L. N., Kato, H., Criollo, H. F., Romero, D. A., Gomez, E. L., Martini, L. R., Zambrano, F. C., Calvopina, M. H., Caceres, A. G. and Hashiguchi, Y. 2014. Sand fly fauna (Diptera, Psychodidae, Phlebotominae) in different leishmaniasis-endemic areas of Ecuador, surveyed by using a newly named mini-Shannon trap. *Trop. Med. Health.*, **42**: 163–170. (doi: 10.2149/tmh.2014-20)
12) Daly, K., De Lima, H., Kato, H., Sordillo, E. M., Convit, J., Reyes-Jaimes, O., Zerpa, O. and Paniz-Mondolfi, A. E. 2014. Intermediate cutaneous leishmaniasis caused by *Leishmania (Viannia) braziliensis* successfully treated with fluconazole. *Clin. Exp. Dermatol.*, **39**: 708–712. (doi: 10.1111/ced.12359)
13) Gomez, E. A., Kato, H. and Hashiguchi, Y. 2014. Man-biting sand fly species and natural infection with the *Leishmania* promastigote in leishmaniasis-endemic areas of Ecuador. *Acta Trop.*, **140**: 41–49. (doi: 10.1016/j.actatropica.2014.07.003)
14) Gomez, E. A., Kato, H., Mimori, T. and Hashiguchi, Y. 2014. Distribution of *Lutzomyia ayacuchensis*, the vector of Andean-type cutaneous leishmaniasis, at different altitudes on the Andean slope of Ecuador. *Acta Trop.*, **137**: 118–122. (doi: 10.1016/j.actatropica.2014.05.006)

Laboratory Animal Science and Medicine

Original articles

1) Asano, A., Torigoe, D., Sasaki, N. and Agui, T. 2014. Development of a sensitive ELISA using a recombinant P46-like lipoprotein for diagnosis of *Mycoplasma pulmonis* infection in rodents. *J. Vet. Med. Sci.*, **76**: 151–157. (doi: 10.1292/jvms.13-0308)

2) Sasaki, H., Sasaki, N., Nishino, T., Nagasaki, K., Kitamura, H., Torigoe, D. and Agui, T. 2014. Quantitative trait loci for resistance to the congenital nephropathy in tensin 2-deficient mice. *PLOS ONE*, **9**: e99602. (doi: 10.1371/journal.pone.0099602)

Laboratory of Veterinary Internal Medicine

Original articles

1) Ohta, H., Takada, K., Sunden, T., Tamura, Y., Osuga, T., Lim, S. Y., Murakami, M., Sasaki, N., Rajaparkshage B. K. W., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. $CD4^+$ T cell cytokine gene and protein expression in duodenal mucosa of dogs with inflammatory bowel disease. *J. Vet. Med. Sci.*, **76**: 409–414. (doi: 10.1292/jvms.13-0008)
2) Lim, S. Y., Nakamura, K., Morishita, K., Sasaki, N., Murakami, M., Osuga, T., Ohta, H., Yamasaki, M. and Takiguchi, M. 2014. Qualitative and quantitative contrast-enhanced ultrasonographic assessment of cerulein-induced acute pancreatitis in dogs. *J. Vet. Intern. Med.*, **28**: 496–503. (doi: 10.1111/jvim.12319)
3) Sasaki, N., Kudo, N., Nakamura, K., Lim, S. Y., Murakami, M., Bandula Kumara, W. R., Tamura, Y., Ohta, H., Yamasaki, M. and Takiguchi, M. 2014. Ultrasound image-guided therapy enhances antitumor effect of cisplatin. *J. Med. Ultrasonics*, **41**: 11–21. (10.1007/s10396-013-0475-y)
4) Yamano, K., Kouguchi, H., Uraguchi, K., Mukai, T., Shibata, C., Yamamoto, H., Takaesu, N., Ito, M., Makino, Y., Takiguchi, M. and Yagi, K. 2014. First detection of *Echinococcus multilocularis* infection in two species of nonhuman primates raised in a zoo: a fatal case in Cercopithecus diana and a strongly suspected case of spontaneous recovery in Macana nigra. *Parasitol. Int.*, **63**: 621–626. (doi: 10.1016/j.parint.2014.04.006)
5) Ohta, H., Sunden, T., Yokoyama, N., Tamura, Y., Osuga, T., Lim, S. Y., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. Expression of apical junction complex proteins in duodenal mucosa of dogs with inflammatory bowel disease. *Am. J. Vet. Res.*, **75**: 746–751. (doi: 10.2460/ajvr.75.8.746)
6) Tamura, Y., Ohta, H., Kashiide, T., Matsumoto, J., Sakurai, T., Yokoyama, N., Morishita, K., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. Case Report: protein-losing enteropathy caused by *Mesocestoides vogae* (syn. M. corti) in a dog. *Vet. Parasitol.*, **205**: 412–415. (doi: 10.1016/j.vetpar.2014.07.027)
7) Tamura, Y., Ohta, H., Yokoyama, N., Lim. S. Y., Osuga, T., Morishita, K., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. Evaluation of selected cytokine gene expression in colonic mucosa from dogs with idiopathic lymphocytic-plasmacytic colitis. *J. Vet. Med. Sci.*, **76**: 1407–1410. (doi: 10.1292/jvms.13-0635)
8) Yamasaki, M., Harada, E., Tamura, Y., Nakamura, K., Lim, S. Y., Osuga, T., Yokoyama, N., Morishita, K., Nakamura, K., Ohta, H. and Takiguchi M. 2014. In vitro and in vivo safety and efficacy studies of amphotericin B on *Babesia gibsoni*. *Vet. Parasitol.*, **205**: 424–433. (doi: 10.1016/j.vetpar.2014.09.005)
9) Nakamura, K., Osuga, T., Morishita, K., Suzuki, S., Morita, T., Yokoyama, N., Ohta, H., Yamasaki, M. and Takiguchi, M. 2014. Prognostic value of left atrial function in dogs with chronic mitral valvular heart disease. *J. Vet. Intern. Med.*, **28**: 1746–1752. (doi: 10.1111/jvim.12441)
10) Takagi, K., Kondo, S., Nakamura, K. and Takiguchi, M. 2014. Lesion type classification

by applying machine-learning technique to contrast-enhanced ultrasound images. *IEICE. Trans. Inf. Syst.*, **E97-D**: 2947–2954.

Laboratory of Veterinary Surgery

Original articles

1) Oh, N., Kim, S., Hosoya, K. and Okumura, M. 2014. Compensatory cellular reactions to nonsteroidal anti-inflammatory drugs on osteogenic differentiation in canine bone marrow-derived mesenchymal stem cells. *J. Vet. Med. Sci.*, **76**: 629–636. (doi: 10.1292/jvms.13-0482)
2) Yamazaki, H., Takagi, S., Oh, N., Hoshino, Y., Hosoya, K. and Okumura, M. 2014. Comparative analysis of mRNA expression of surface antigens between histiocytic and nonhistiocytic sarcoma in dogs. *J. Vet. Intern. Med.*, **28**: 204–210. (doi: 10.1111/jvim.12244)
3) Hosoya, K., Couto, C. G., London, C. A., Kisseberth, W. C., Phelps, M. A. and Dalton, J. T. 2014. Comparison of high-dose intermittent and low-dose continuous oral artemisinin in dogs with naturally occurring tumors. *J. Am. Anim. Hosp. Assoc.*, **50**: 390–395. (doi: 10.5326/JAAHA-MS-6145)
4) Alvarez, F. J., Kisseberth, W., Hosoya, K., Lara-Garcia, A., Kosarek, C., Murahari, S., Au, J. L., Wientjes, M. G., Couto, J. and Couto, G. 2014. Postoperative adjuvant combination therapy with doxorubicin and noncytotoxic suramin in dogs with appendicular osteosarcoma. *J. Am. Anim. Hosp. Assoc.*, **50**: 12–18. (doi: 10.5326/JAAHA-MS-5958)
5) Kesdangsakonwut, S., Sunden, Y., Aoshima, K., Iwaki, Y., Okumura, M., Sawa, H. and Umemura, T. 2014. Survival of rabid rabbits after intrathecal immunization. *Neuropathology*, **34**: 277–283. (doi: 10.1111/neup.12094)

Laboratory of Comparative Pathology

Original articles

1) Kobayashi, S., Orba, Y., Yamaguchi, H., Takahashi, K., Sasaki, M., Hasebe, R., Kimura, T. and Sawa, H. 2014. Autophagy inhibits viral genome replication and gene expression stages in West Nile virus infection. *Virus Res.*, **191**: 83–91. (doi: 10.1016/j.virusres.2014.07.016)
2) Guo, X., Izume, S., Okada, A., Ohya, K., Kimura, T. and Fukushi, H. 2014. Full genome sequences of zebra-borne equine herpesvirus type 1 isolated from zebra, onager and Thomson's gazelle. *J. Vet. Med. Sci.*, **76**: 1309–1312. (doi: 10.1292/jvms.14-0183)
3) Sasaki, M., Setiyono, A., Handharyani, E., Kobayashi, S., Rahmadani, I., Taha, S., Adiani, S., Subangkit, M., Nakamura, I., Sawa, H. and Kimura, T. 2014. Isolation and characterization of a novel alphaherpesvirus in fruit bats. *J. Virol.*, **88**: 9819–9829. (doi: 10.1128/JVI.01277-14)
4) Yamaguchi, H., Kobayashi, S., Maruyama, J., Sasaki, M., Takada, A., Kimura, T., Sawa, H. and Orba, Y. 2014. Role of the C-terminal region of vervet monkey polyomavirus 1 VP1 in virion formation. *J. Vet. Med. Sci.*, **76**: 637–644. (doi: 10.1292/jvms.13-0568)
5) Muleya, W., Sasaki, M., Orba, Y., Ishii, A., Thomas, Y., Nakagawa, E., Ogawa, H., Hang'ombe, B., Namangala, B., Mweene, A., Takada, A., Kimura, T. and Sawa, H. 2014.

Molecular epidemiology of paramyxoviruses in frugivorous *Eidolon helvum* bats in Zambia. *J. Vet. Med. Sci.*, **76**: 611–614. (doi: 10.1292/jvms.13-0518)
6) Sasaki, M., Muleya, W., Ishii, A., Orba, Y., Hang'ombe, B. M., Mweene, A. S., Moonga, L., Thomas, Y., Kimura, T. and Sawa, H. 2014. Molecular epidemiology of paramyxoviruses in Zambian wild rodents and shrews. *J. Gen. Virol.*, **95(Pt 2)**: 325–330. (doi: 10.1099/vir.0.058404-0)
7) Makino, Y., Suzuki, T., Hasebe, R., Kimura, T., Maeda, A., Takahashi, H. and Sawa, H. 2014. Establishment of tracking system for West Nile virus entry and evidence of microtubule involvement in particle transport. *J. Virol. Methods.*, **195**: 250–257. (doi: 10.1016/j.jviromet.2013.10.002)
8) Makino, Y., Inoue, E., Hada, M., Aoshima, K., Kitano, S., Miyachi, H. and Okada, Y. 2014. Generation of a dual-color reporter mouse line to monitor spermatogenesis *in vivo*. *Front. Cell Dev. Biol.*, **2**: 30. (doi: 10.3389/fcell.2014.00030)
9) Kesdangsakonwut, S., Sunden, Y., Aoshima, K., Iwaki, Y., Okumura, M., Sawa, H. and Umemura, T. 2014. Survival of rabid rabbits after intrathecal immunization. *Neuropathology*, **34**: 277–283. (doi: 10.1111/neup.12094)
10) Shirai, T., Saito, M., Kobayashi, A., Asano, M., Hizume, M., Ikeda, S., Teruya, K., Morita, M. and Kitamoto, T. 2014. Evaluating prion models based on comprehensive mutation data of mouse PrP. *Structure*, **22**: 560–571. (doi: 10.1016/j.str.2013.12.019)
11) Kobayashi, A., Matsuura, Y., Mohri, S. and Kitamoto, T. 2014. Distinct origins of dura mater graft-associated Creutzfeldt-Jakob disease: past and future problems. *Acta Neuropathol. Commun.*, **2**: 32. (doi: 10.1186/2051-5960-2-32)
12) Qina, T., Sanjo, N., Hizume, M., Higuma, M., Tomita, M., Atarashi, R., Satoh, K., Nozaki, I., Hamaguchi, T., Nakamura, Y., Kobayashi, A., Kitamoto, T., Murayama, S., Murai, H., Yamada, M. and Mizusawa, H. 2014. Clinical features of genetic Creutzfeldt-Jakob disease with V180I mutation in the prion protein gene. *BMJ Open*, **4**: e004968. (doi: 10.1136/bmjopen-2014-004968)

Laboratory of Theriogenology

Original articles

1) Huang, W., Nagano, M., Kang, S. S., Yanagawa, Y. and Takahashi, Y. 2014. Prematurational Culture with 3-Isobutyl-1-methylxanthine Synchronizes Meiotic Progression of the Germinal Vesicle Stage and Improves Nuclear Maturation and Embryonic Development in *In Vitro*-grown Bovine Oocytes. *J. Reprod. Dev.*, **60**: 9–13. (doi: 10.1262/jrd.2013-082)
2) Kobayashi, K., Asano, M., Yanagawa, Y., Haneda, S. and Matsui, M. 2014. An attempt to induce antibody production for immunocontraception in the Hokkaido sika deer (*Cervus nippon yesoensis*) by immunization with a porcine zona pellucida synthetic peptide. *Mamm. Study*, **39**: 59–64. (doi: 10.3106/041.039.0110)
3) Koyama, K., Kang, S. S., Huang, W., Yanagawa, Y., Takahashi, Y. and Nagano, M. 2014. Estimation of the optimal timing of fertilization for embryo development of *in vitro*-matured bovine oocytes based on the times of nuclear maturation and sperm penetration. *J. Vet. Med. Sci.*, **76**: 653–659. (doi: 10.1292/jvms.13-0607)
4) Koyama, K., Kang, S. S., Huang, W., Yanagawa, Y., Takahashi, Y. and Nagano, M. 2014. Aging-related changes in *in vitro*-

matured bovine oocytes: Oxidative stress, mitochondrial activity and ATP content after nuclear maturation. *J. Reprod. Dev.*, **60**: 136–142. (doi: 10.1262/jrd.2013-115)
5) Okuyama, M. W., Shimozuru, M., Yanagawa, Y. and Tsubota, T. 2014. Changes in the immunolocalization of steroidogenic enzymes and the androgen receptor in raccoon (*Procyon lotor*) testes in association with the seasons and spermatogenesis. *J. Reprod. Dev.* **60**: 155–161. (doi: 10.1262/jrd.2013-122)
6) Huang, W., Kang, S. S., Yanagawa, Y., Yang, Y., Takahashi, Y. and Nagano, M. 2014. Effects of *in vitro*-growth culture duration on fertilizability of bovine growing oocytes and proliferation of cells surrounding oocytes. *Jpn. J. Vet. Res.*, **62**: 135–141. (doi: 10.14943/jjvr.62.3.135)
7) Tulake, K., Yanagawa, Y., Takahashi, Y., Katagiri, S., Higaki, S., Koyama, K., Wang, X. and Li, H. 2014. Effects of ovarian storage condition on *in vitro* maturation of Hokkaido sika deer (*Cervus nippon yesoensis*) oocytes. *Jpn. J. Vet. Res.* **62**: 187–192. (doi: 10.14943/jjvr.62.4.187)

Laboratory of Molecular Medicine

Original article

1) Ogawa, M., Uchida, K., Yamato, O., Inaba, M., Uddin, M. M. and Nakayama, H. 2014. Neuronal loss and decreased GLT-1 expression observed in the spinal cord of Pembroke Welsh Corgi dogs with canine degenerative myelopathy. *Vet. Pathol.*, **51**: 591–602. (doi: 10.1177/0300985813495899)

Laboratory of Public Health

Original articles

1) Yoshii, K., Sunden, Y., Yokozawa, K., Igarashi, M., Kariwa, H., Holbrook, M. R. and Takashima, I. 2014. A Critical Determinant of Neurological Disease Associated with Highly Pathogenic Tick-borne Flavivirus in Mice. *J. Virol.*, **88**: 5406–5420. (doi: 10.1128/JVI.00421-14)
2) Hirano, M., Yoshii, K., Sakai, M., Hasebe, R., Ichii, O. and Kariwa, H. 2014. Tick-borne flaviviruses alter membrane structure and replicate in dendrites of primary mouse neuronal cultures. *J. Gen. Virol.*, **95**: 849–861. (doi: 10.1099/vir.0.061432-0)
3) Sakai, M., Yoshii, K., Sunden, Y., Yokozawa, K., Hirano, M. and Kariwa, H. 2014. Variable region of the 3' UTR is a critical virulence factor in the Far-Eastern subtype of tick-borne encephalitis virus in a mouse model. *J. Gen. Virol.* **95**: 823–835. (doi: 10.1099/vir.0.060046-0)
4) Chidumayo, N. N., Yoshii, K., Saasa, N., Sakai, M. and Kariwa, H. 2014. Development of a tick-borne encephalitis serodiagnostic ELISA using recombinant Fc-antigen fusion proteins. *Diagn. Microbiol. Inect. Dis.*, **78**: 373–378. (doi: 10.1016/j.diagmicrobio.2013.12.014)
5) Chidumayo, N. N., Yoshii, K. and Kariwa, H. 2014. Evaluation of the European tick-borne encephalitis vaccine against Omsk hemorrhagic fever virus. *Microbiol. Immunol.*, **58**: 112–118. (doi: 10.1111/1348-0421.12122)

Laboratory of Radiation Biology

Original articles

1) Yasui, H., Takeuchi, R., Nagane, M., Meike, S., Nakamura, Y., Yamamori, T., Ikenaka, Y., Kon, Y., Murotani, H., Oishi, M., Nagasaki, Y. and Inanami O., 2014. Radiosensitization of tumor cells through endoplasmic reticulum stress induced by PEGylated nanogel containing gold nanoparticles. *Cancer Lett.*, **347**: 151–158. (doi: 10.1016/j.canlet.2014.02.005)
2) Goodwin, J., Yachi, K., Nagane, M., Yasui, H., Miyake, Y., Inanami, O., Bobko, A. A., Khramtsov, V. V. and Hirata, H., 2014. *In vivo* tumour extracellular pH monitoring using electron paramagnetic resonance: the effect of X-ray irradiation. *NMR Biomed.*, **27**: 453–458. (doi: 10.1002/nbm.3081)
3) Nishida, N., Yasui, H., Nagane, M., Yamamori, T. and Inanami, O. 2014. 3-Methyl pyruvate enhances radiosensitivity through increasing mitochondria-derived reactive oxygen species in tumor cell lines. *J. Radiat. Res.*, **55**: 455–463. (doi: 10.1093/jrr/rrt142)

Review article

1) Kuwabara, M., Hiraoka, W. and Inanami, O., 2014. Chapter 9. Applications of the spin-trapping method in radiation biology, In *Applications of EPR in Radiation Research*, pp. 353–384, Lund, A., Shiotani, M., eds., Springer International Publishing. (doi: 10.1007/978-3-319-09216-4_9)

Laboratory of Toxicology

Original articles

1) Ishii, C., Ikenaka, Y., Nakayama S. M. M., Suzuki, Y., Watanuki, Y., Watanabe, Y., Yohannes, Y. B., Mizukawa, H. and Ishizuka, M. 2014. Contamination status and accumulation characteristics of metals and a metalloid in birds on Teuri Island, Hokkaido, Japan. *Jpn. J. Vet. Res.*, **62**: 143–149. (doi: 10.14943/jjvr.62.3.143)
2) Fujisawa, N., Nakayama, S. M. M., Ikenaka, Y. and Ishizuka, M. 2014. TCDD-induced chick cardiotoxicity is abolished by a selective cyclooxygenase-2 (COX-2) inhibitor NS398. *Arch. Toxicol.*, **88**: 1739–1748. (doi: 10.1007/s00204-014-1225-7)
3) Bortey-Sam, N., Ikenaka, Y., Nakayama, S. M. M., Akoto, O., Yohannes, Y. B., Baidoo, E., Mizukawa, H. and Ishizuka, M. 2014. Occurrence, distribution, sources and toxic potential of polycyclic aromatic hydrocarbons (PAHs) in surface soils from the Kumasi Metropolis, Ghana. *Sci. Total. Environ.*, **496**: 471–478. (doi: 10.1016/j.scitotenv.2014.07.071)
4) Mizukawa, H., Ikenaka, Y., Nakayama, S. M. M., Sakamoto, K. Q., Fujita, S. and Ishizuka, M. 2014. Contamination status and possibility of toxic effects of co-planar polychlorinated biphenyls, polycyclic aromatic hydrocarbons, and dichlorodiphenyltrichloroethane in large Japanese field mouse (*Apodemus speciosus*) collected from Hokkaido and Aomori. *Jpn. J. Vet. Res.*, **62**: 107–115. (doi: 10.14943/jjvr.62.3.107)
5) Yohannes, Y. B., Ikenaka, Y., Nakamyama, S. M. M. and Ishizuka, M. 2014. Organochlorine pesticides in bird species and their prey (fish) from the Ethiopian Rift Valley region, Ethiopia. *Environ. Pollut.*, **192**: 121–128. (doi: 10.1016/j.envpol.2014.05.007)
6) Yohannes, Y. B., Ikenaka, Y., Saengtienchai, A., Watanabe, K. P., Nakamyama, S. M. M.

and Ishizuka, M. 2014. Concentrations and human health risk assessment of organochlorine pesticides in edible fish species from a Rift Valley Lake—Lake Ziway, Ethiopia. *Ecotox. Environ. Saf.*, **106**: 95–101. (doi: 10.1016/j.ecoenv.2014.04.014)

7) Yasui, H., Takeuchi, R., Nagane, M., Meike, S., Nakamura, Y., Yamamori, T., Ikenaka, Y., Kon, Y., Murotani, H., Oishi, M., Nagasaki, Y. and Inanami, O. 2014. Radiosensitization of tumor cells through endoplasmic reticulum stress induced by PEGylated nanogel containing gold nanoparticles. *Cancer. Lett.*, **347**: 151–158. (doi: 10.1016/j.canlet.2014.02.005)
8) Akoto, O., Bortey-Sam, N., Nakayama, S. M. M., Ikenaka, Y., Baidoo, E., Yohannes, Y. B., Mizukawa, H. and Ishizuka, M. 2014. Distribution of heavy metals in organs of sheep and goat reared in Obuasi: A gold mining town in Ghana. *International Journal of Environmental Science and Toxicology Research*, **2**: 81–89.
9) M'kandawire, E., Syakalima, M., Muzandu, K., Pandey, G., Simuunza, M., Nakayama, S. M. M., Kawai, Y. K., Ikenaka, Y. and Ishizuka, M. 2014. Molecular characterization and mRNA expression of cytochrome P450 1A1 and cytochrome P450 3A in liver of Kafue Lechwe (*Kobus leche kafuensis*) as potential biomarkers of pollution of the Kafue River basin, Zambia. *Engineering.*, **6**: 51–58. (doi: 10.4236/eng.2014.62008)
10) Darwish, W. S., Ikenaka, Y., Nakayama, S. M. M. and Ishizuka, M. 2014. The effect of copper on the mRNA expression profile of xenobiotic-metabolizing enzymes in cultured rat H4-II-E cells. *Biol. Trace Elem. Res.*, **158**: 243–248. (doi: 10.1007/s12011-014-9915-9)
11) Saengtienchai, T., Poapolathep, S., Isariyodom, S., Ikenaka, Y., Ishizuka, M. and Poapolathep, A. 2014. Toxicokinetics and tissue depletion of Fusarenon-X and its metabolite nivalenol in piglets. *Food Chem Toxicol.*, **66**: 307–312. (doi: 10.1016/j.fct.2014.01.053)

Review article

1) Darwish, W. S., Ikenaka, Y., Nakayama, S. M. M. and Ishizuka, M. 2014. An overview on mycotoxin contamination of foods in Africa. *J. Vet. Med. Sci.*, **76**: 789–797. (doi: 10.1292/jvms.13-0563)

Laboratory of Wildlife Biology and Medicine

Original articles

1) Paudel, S., Mikota, S. K., Nakajima, C., Gairhe, K. P., Maharjan, B., Thapa, J., Poudel, A., Shimozuru, M., Suzuki, Y. and Tsubota, T. 2014. Molecular characterization of *Mycobacterium tuberculosis* isolates from elephants of Nepal. *Tuberculosis*, **94**: 287–292. (doi: 10.1016/j.tube.2013.12.008)
2) Okuyama, M. W., Shimozuru, M. and Tsubota, T. 2014. A genetic method for sex identification of raccoons (*Procyon lotor*) with using the ZFX and ZFY genes. *J. Vet. Med. Sci.*, **76**: 773–775. (doi: 10.1292/jvms.13-0577)
3) Okuyama, M. W., Shimozuru, M., Yanagawa, Y. and Tsubota, T. 2014. Changes in the immunolocalization of steroidogenic enzymes and the androgen receptor in raccoon (*Procyon lotor*) testes in association with the seasons and spermatogenesis. *J. Reprod. Dev.*, **60**: 155–161. (doi: 10.1262/jrd.2013-122)
4) Sasaki, M., Amano, Y., Hayakawa, D., Tsubota, T., Ishikawa, H., Mogoe, T., Ohsumi, S., Tetsuka, M., Miyamoto, A., Fukui, Y., Budipitojo, T. and Kitamura, N. 2014. Areolae of the placenta in the Antarctic Minke whale

(*Balaenoptera bonaerensis*). *J. Reprod. Dev.*, **60**: 62–67. (doi: 10.1262/jrd.2013-063)
5) Saengtienchai, A., Ikenaka, Y., Nakayama, S., Mizukawa, H., Kakehi, M., Bortey-Sam, N., Wageh, D., Tsubota, T., Terasaki, M., Poapolathep, A. and Ishizuka, M. 2014. Identification of inter-specific differences in phase II reactions: Determination of metabolites in the urine of 16 mammalian species exposed to environmental pyrene. *Environ. Toxicol. Chem.*, **33**: 2062–2069. (doi: 10.1002/etc.2656)
6) Lee K., Takano, A., Taylor, K., Sashika, M., Shimozuru, M., Konnai, S., Kawabata, H. and Tsubota, T. 2014. A relapsing fever group *Borrelia* sp. Similar to *Borrelia lonestari* found among wild sika deer (*Cervus Nippon yesoensis*) and *Haemaphysalis* spp. ticks in Hokkaido, Japan. *Ticks Tick borne Dis.*, **5**: 841–847. (doi: 10.1016/j.ttbdis.2014.06.006)

Laboratory of Veterinary Hygiene

Original articles

1) Hasebe, R., Suzuki, A., Yamasaki, T. and Horiuchi, M. 2014. Temporary upregulation of anti-inflammatory cytokine Il-13 expression in the brains of CD14 deficient mice in the early stage of prion infection. *Biochem. Biophys. Res. Commun.*, **434**: 125–130. (doi: 10.1016/j.bbrc.2014.10.043)
2) Yamasaki, T., Suzuki, A., Hasebe, R. and Horiuchi, M. 2014. Comparison of the anti-prion mechanism of four different anti-prion compounds, anti-PrP monoclonal antibody 44B1, pentosan polysulfate, chlorpromazine, and U18666A, in prion-infected mouse neuroblastoma cells. *PLOS ONE*, **9**: e106516. (doi: 10.1371/journal.pone.0106516)
3) Uchida, L., Heriyato, A., Thongchai, C., Hanh, T. T., Horiuchi, M., Ishihara, K., Tamura, Y. and Muramatsu, Y. 2014. Genetic diversity in the prion protein gene (PRNP) of domestic cattle and water buffaloes in Vietnam, Indonesia and Thailand. *J. Vet. Med. Sci.*, **76**: 1001–1008. (doi: 10.1292/jvms.13-0642)
4) Hirano, M., Yoshii, K., Sakai, M., Hasebe, R. and Kariwa, H. 2014. Tick-borne flaviviruses alter membrane structure and replicate in dendrites of primary mouse neuronal cultures. *J. Gen. Virol.*, **85**: 849–861. (doi: 10.1099/vir.0.061432-0)
5) Kobayashi, S., Orba, Y., Yamaguchi, H., Takahashi, K., Sasaki, M., Hasebe, R., Kimura, T. and Sawa, H. 2014. Autophagy inhibits viral genome replication and gene expression stages in West Nile virus infection. *Virus Res.*, **191**: 83–91. (doi: 10.1016/j.virusres.2014.07.016)
6) Yamasaki, T., Baron, G. S., Suzuki, A., Hasebe, R. and Horiuchi, M. 2014. Characterization of intracellular dynamics of inoculated PrP-res and newly generated PrP(Sc) during early stage prion infection in Neuro2a cells. *Virology*, **450**–451: 324–335. (doi: 10.1016/j.virol.2013.11.007)
7) Makino, Y., Suzuki, T., Hasebe, R., Kimura, T., Maeda, A., Takahashi, H. and Sawa, H. 2014. Establishment of tracking system for West Nile virus entry and evidence of microtubule involvement in particle transport. *J. Virol. Method.*, **195**: 250–257. (doi: 10.1016/j.jviromet.2013.10.002)

Laboratory of Veterinary Teaching Hospital

Original articles

1) Yamazaki, H., Takagi, S., Oh, N., Hoshino, Y., Hosoya, K. and Okumura, M. 2014. Comparative analysis of mRNA expression of surface antigens between histiocytic and nonhistiocytic sarcoma in dogs. *J. Vet. Intern. Med.*, **28**: 204–210. (doi: 10.1111/jvim.12244)
2) Maekawa, N., Konnai, S., Ikebuchi, R., Okagawa, T., Adachi, M., Takagi, S., Kagawa, Y., Nakajima, C., Suzuki, Y., Murata, S. and Ohashi, K. 2014. Expression of PD-L1 on canine tumor cells and enhancement of IFN-γ production from tumor-infiltrating cells by PD-L1 blockade. *PLOS ONE*, **10**: e98415. (doi: 10.1371/journal.pone.0098415)
3) Lim, S. Y., Nakamura, K., Morishita, K., Sasaki, N., Murakami, M., Osuga, T., Ohta, H., Yamasaki, M. and Takiguchi, M. 2014. Qualitative and quantitative contrast-enhanced ultrasonographic assessment of cerulein-induced acute pancreatitis in dogs. *J. Vet. Intern. Med.*, **28**: 496–503. (doi: 10.1111/jvim.12319)
4) Lim, S. Y., Nakamura, K., Morishita, K., Sasaki, N., Murakami, M., Osuga, T., Yokoyama, N., Ohta, H., Yamasaki, M. and Takiguchi, M. 2015. Quantitative contrast-enhanced ultrasonographic assessment of naturally occurring pancreatitis in dogs. *J. Vet. Intern. Med.*, **29**: 71–78. (doi: 10.1111/jvim.12470)
5) Nakamura, K., Osuga, T., Morishita, K., Suzuki, S., Morita, T., Yokoyama, N., Ohta, H., Yamasaki, M. and Takiguchi, M. 2014. Prognostic value of left atrial function in dogs with chronic mitral valvular heart disease. *J. Vet. Intern. Med.*, **28**: 1746–1752. (doi: 10.1111/jvim.12441)
6) Ohta, H., Sunden, Y., Yokoyama, N., Osuga, T., Lim, S. Y., Tamura, Y., Morishita, K., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. Expression of apical junction complex proteins in duodenal mucosa of dogs with inflammatory bowel disease. *Am. J. Vet. Res.*, **75**: 746–751. (doi: 10.2460/ajvr.75.8.746)
7) Ohta, H., Takada, K., Sunden, Y., Tamura, Y., Osuga, T., Lim, S. Y., Murakami, M., Sasaki, N., Wickramasekara Rajapakshage, B. K., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. $CD4^+$ T cell cytokine gene and protein expression in duodenal mucosa of dogs with inflammatory bowel disease. *J. Vet. Med. Sci.*, **76**: 409–414. (doi: 10.1292/jvms.13-0008)
8) Tamura, Y., Ohta, H., Yokoyama, N., Lim, S. Y., Osuga, T., Morishita, K., Nakamura, K., Yamasaki, M. and Takiguchi, M. 2014. Evaluation of selected cytokine gene expression in colonic mucosa from dogs with idiopathic lymphocytic-plasmacytic colitis. *J. Vet. Med. Sci.*, **76**: 1407–1410. (doi: 10.1292/jvms.13-0635)
9) Yamasaki, M., Harada, E., Tamura, Y., Lim, S. Y., Ohsuga, T., Yokoyama, N., Morishita, K., Nakamura, K., Ohta, H. and Takiguchi, M. 2014. In vitro and in vivo safety and efficacy studies of amphotericin B on *Babesia gibsoni*. *Vet. Parasitol.*, **205**: 424–433. (doi: 10.1016/j.vetpar.2014.09.005)
10) Ishizuka, T., Tamura, J., Nagaro, T., Sudo, K., Itami, T., Umar, M. A., Miyoshi, K., Sano, T. and Yamashita, K. 2014. Effect of intermittent positive pressure ventilation on cardiopulmonary function in horses anesthetized with total intravenous anesthesia using combination of medetomidine, lidocaine, butorphanol and propofol (MLBP-TIVA). *J. Vet. Med. Sci.*, **76**: 1577–1582. (doi: 10.1292/jvms.14-0077)
11) Tamura, J., Itami, T., Ishizuka, T., Fukui, S., Ooyama, N., Miyoshi, K., Sano, T. and Yamashita, K. 2014. Sparing effect of robenacoxib on the minimum alveolar concentration for blunting adrenagic response (MAC-BAR) of sevoflurane in dogs. *J. Vet.*

Med. Sci., **76**: 113–117. (doi: 10.1292/jvms.13-0042)
12) Choi, S., Liu I. L., Yamamoto, K., Honnami, M., Ohba, S., Echigo, R., Sakai, T., Igawa, K., Suzuki, S., Nishimura, R., Chung, U. I., Sasaki, N. and Mochizuki, M. 2014. Comparison of the long-term effects on rabbit bone defects between Tetrabone and β-tricalcium phosphate granules implantation. *J. Artif. Organs*, **17**: 344–351. (doi: 10.1007/s10047-014-0778-9)
13) Choi, S., Liu, I. L., Yamamoto, K., Honnami, M., Sakai, T., Ohba, S., Echigo, R., Suzuki, S., Nishimura, R., Chung, U. I., Sasaki, N. and Mochizuki, M. 2014. Implantation of tetrapod-shaped granular artificial bones or β-tricalcium phosphate granules in a canine large bone-defect model. *J. Vet. Med. Sci.*, **76**: 229–235. (doi: 10.1292/jvms.13-0054)
14) Hanazono, K., Fukumoto, S., Endo, Y., Ueno, H., Kadosawa, T. and Uchide T. 2014. Ultrasonographic findings related to prognosis in canine transitional cell carcinoma. *Vet. Radiol. Ultrasound.*, **55**: 79–84. (doi: 10.1111/vru.12085)
15) Fukumoto, S., Hanazono, K., Miyasho, T., Endo, Y., Kadosawa, T., Iwano, H. and Uchide T. 2014. Serum big endothelin-1 as a clinical marker for cardiopulmonary and neoplastic diseases in dogs. *Life. Sci.*, **118**: 329–332. (doi: 10.1016/j.lfs.2014.01.002)

Department of Global Epidemiology

Original articles

1) Maruyama, J., Miyamoto, H., Kajihara, M., Ogawa, H., Maeda, K., Sakoda, Y., Yoshida, R. and Takada, A. 2014. Characterization of the envelope glycoprotein of a novel filovirus, Lloviu virus. *J. Virol.*, **88**: 99–109. (doi: 10.1128/JVI.02265-13)
2) Muramatsu, M., Yoshida, R., Yokoyama, A., Miyamoto, H., Kajihara, M., Maruyama, J., Nao, N., Manzoor, R. and Takada, A. 2014. Comparison of antiviral activity between IgA and IgG specific to influenza virus hemagglutinin: Increased potential of IgA for heterosubtypic immunity. *PLOS ONE*, **9**: e85582. (doi: 10.1371/journal.pone.0085582)
3) Manzoor, R., Kuroda, K., Yoshida, R., Tsuda, Y., Fujikura, D., Miyamoto, H., Kajihara, M., Kida, H. and Takada, A. 2014. Heat shock protein 70 modulates influenza A virus polymerase activity. *J. Biol. Chem.*, **289**: 7599–7614. (doi: 10.1074/jbc.M113.507798)
4) Bukreyev, A. A., Chandran, K., Dolnik, O., Dye, J. M., Ebihara, H., Leroy, E. M., Mühlberger, E., Netesov, S. V., Patterson, J. L., Paweska, J. T., Saphire, E. O., Smither, S. J., Takada, A., Towner, J. S., Volchkov, V. E., Warren, T. K. and Kuhn, J. H. 2014. Discussions and decisions of the 2012–2014 International Committee on Taxonomy of Viruses (ICTV) Filoviridae Study Group, January 2012-June 2013. *Arch. Virol.*, **159**: 821–830. (doi: 10.1007/s00705-013-1846-9)
5) Kuhn, J. H., Bao, Y., Bavari, S., Becker, S., Bradfute, S., Brister, J. R., Bukreyev, A. A., Caì, Y., Chandran, K., Davey, R. A., Dolnik, O., Dye, J. M., Enterlein, S., Gonzalez, J. P., Formenty, P., Freiberg, A. N., Hensley, L. E., Honko, A. N., Ignatyev, G. M., Jahrling, P. B., Johnson, K. M., Klenk, H. D., Kobinger, G., Lackemeyer, M. G., Leroy, E. M., Lever, M. S., Lofts, L. L., Mühlberger, E., Netesov, S. V., Olinger, G. G., Palacios, G., Patterson, J. L., Paweska, J. T., Pitt, L., Radoshitzky, S. R., Ryabchikova, E. I., Saphire, E. O., Shestopalov, A. M., Smither, S. J., Sullivan, N. J., Swanepoel, R., Takada, A., Towner, J. S., van der Groen, G., Volchkov, V. E., Wahl-Jensen, V., Warren, T. K., Warfield, K. L., Weidmann, M. and Nichol, S. T. 2014. Virus

nomenclature below the species level: a standardized nomenclature for filovirus strains and variants rescued from cDNA. *Arch. Virol.*, **159**: 1229–1237. (doi: 10.1007/s00705-013-1877-2)

6) Muleya, W., Sasaki, M., Orba, Y., Ishii, A., Thomas, Y., Nakagawa, E., Ogawa, H., Hang'ombe, B., Namangala, B., Mweene, A., Takada, A., Kimura, T. and Sawa, H. 2014. Molecular epidemiology of paramyxoviruses in frugivorous Eidolon helvum bats in Zambia. *J. Vet. Med. Sci.*, **76**: 611–614. (doi: 10.1292/jvms.13-0518)
7) Yamaguchi, H., Kobayashi, S., Maruyama, J., Sasaki, M., Takada, A., Kimura, T., Sawa, H. and Orba, Y. 2014. Role of the C-Terminal region of vervet monkey polyomavirus 1 VP1 in virion formation. *J. Vet. Med. Sci.*, **76**: 637–644. (doi: 10.1292/jvms.13-0568)
8) Ozaki, H., Guan, Y., Peiris, M., Webster, R., Takada, A. and Webby, R. 2014. Effect of the PB2 and M Genes on the Replication of H6 Influenza Virus in Chickens. *Influenza. Res. Treat.*, 547839. (doi: 10.1155/2014/547839)
9) Simulundu, E., Nao, N., Yabe, J., Muto, N. A., Sithebe, T., Sawa, H., Manzoor, R., Kajihara, M., Muramatsu, M., Ishii, A., Ogawa, H., Mweene, A. S. and Takada, A. 2014. The zoonotic potential of avian influenza viruses isolated from wild waterfowl in Zambia. *Arch. Virol.*, **159**: 2633–2640. (doi: 10.1007/s00705-014-2124-1)
10) Itoh, Y., Yoshida, R., Shichinohe, S., Higuchi, M., Ishigaki, H., Nakayama, M., Pham, V. L., Ishida, H., Kitano, M., Arikata, M., Kitagawa, N., Mitsuishi, Y., Ogasawara, K., Tsuchiya, H., Hiono, T., Okamatsu, M., Sakoda, Y., Kida, H., Ito, M., Quynh Mai, L., Kawaoka, Y., Miyamoto, H., Ishijima, M., Igarashi, M., Suzuki, Y. and Takada, A. 2014. Protective efficacy of passive immunization with monoclonal antibodies in animal models of H5N1 highly pathogenic avian influenza virus infection. *PLOS Pathog.*, **10**: e1004192. (doi: 10.1371/journal.ppat.1004192)
11) Kuhn, J. H., Andersen, K. G., Bào, Y., Bavari, S., Becker, S., Bennett, R. S., Bergman, N. H., Blinkova, O., Bradfute, S., Brister, J. R., Bukreyev, A., Chandran, K., Chepurnov, A. A., Davey, R. A., Dietzgen, R. G., Doggett, N. A., Dolnik, O., Dye, J. M., Enterlein, S., Fenimore, P. W., Formenty, P., Freiberg, A. N., Garry, R. F., Garza, N. L., Gire, S. K., Gonzalez, J. P., Griffiths, A., Happi, C. T., Hensley, L. E., Herbert, A. S., Hevey, M. C., Hoenen, T., Honko, A. N., Ignatyev, G. M., Jahrling, P. B., Johnson, J. C., Johnson, K. M., Kindrachuk, J., Klenk, H. D., Kobinger, G., Kochel, T. J., Lackemeyer, M. G., Lackner, D. F., Leroy, E. M., Lever, M. S., Mühlberger, E., Netesov, S. V., Olinger, G. G., Omilabu, S. A., Palacios, G., Panchal, R. G., Park, D. J., Patterson, J. L., Paweska, J. T., Peters, C. J., Pettitt, J., Pitt, L., Radoshitzky, S. R., Ryabchikova, E. I., Saphire, E. O., Sabeti, P. C., Sealfon, R., Shestopalov, A. M., Smither, S. J., Sullivan, N. J., Swanepoel, R., Takada, A., Towner, J. S., van der Groen, G., Volchkov, V. E., Volchkova, V. A., Wahl-Jensen, V., Warren, T. K., Warfield, K. L., Weidmann, M. and Nichol, S. T. 2014. Filovirus RefSeq entries: evaluation and selection of filovirus type variants, type sequences, and names. *Viruses*, **6**: 3663–3682. (doi: 10.3390/v6093663)
12) Kuroda, M., Fujikura, D., Noyori, O., Kajihara, M., Maruyama, J., Miyamoto, H., Yoshida, R. and Takada, A. 2014. A polymorphism of the TIM-1 IgV domain: Implications for the susceptibility to filovirus infection. *Biochem. Biophys. Res. Commun.*, **455**: 223–228. (doi: 10.1016/j.bbrc.2014.10.144)
13) Yoshii, K., Sunden, Y., Yokozawa, K., Igarashi, M., Kariwa, H., Holbrook, M. R. and Takashima, I. 2014. A critical determinant of neurological disease associated with highly pathogenic tick-borne flavivirus in mice. *J. Virol.*, **88**: 5406–5420. (doi: 10.1128/JVI.00421-14)

Review article

1) Changula, K., Kajihara, M., Mweene, A. S. and Takada, A. 2014. Ebola and Marburg virus diseases in Africa: Increased risk of outbreaks in previously unaffected areas? *Microbiol. Immunol.*, **58**: 483–491. (doi: 10.1111/1348-0421.12181)

Division of Molecular Pathobiology

Original articles

1) Makino, Y., Suzuki, T., Hasebe, R., Kimura, T., Maeda, A., Takahashi, H. and Sawa, H. 2014. Establishment of tracking system for West Nile virus entry and evidence of microtubule involvement in particle transport. *J. Virol. Methods.*, **195**: 250–257. (doi: 10.1016/j.jviromet.2013.10.002)
2) Sasaki, M., Muleya, W., Ishii, A., Orba, Y., Hangombe, B. M., Mweene, A. S., Moonga, L., Thomas, Y., Kimura, T. and Sawa, H. 2014. Molecular epidemiology of paramyxoviruses in Zambian wild rodents and shrews. *J. Gen. Virol.*, **95**: 325–330. (doi: 10.1099/vir.0.058404-0)
3) Ishii, A., Ueno, K., Orba, Y., Sasaki, M., Moonga, L., Hang'ombe, B. M., Mweene, A. S., Umemura, T., Ito, K., Hall, W. W. and Sawa, H. 2014. A nairovirus isolated from African bats causes haemorrhagic gastroenteritis and severe hepatic disease in mice. *Nat. Commun.*, **5**: 5651, 1–11. (doi: 10.1038/ncomms6651)
4) Sasaki, M., Setiyono, A., Handharyani, E., Kobayashi, S., Rahmadani, I., Taha, S., Adiani, S., Subangkit, M., Nakamura, I., Sawa, H. and Kimura, T. 2014. Isolation and Characterization of A Novel Alphaherpesvirus in Fruit Bats. *J. Virol.*, **88**: 9819–9829. (doi: 10.1128/JVI.01277-14)
5) Kobayashi, S., Orba, Y., Yamaguchi, H., Takahashi, K., Sasaki, M., Hasebe, R., Kimura, T. and Sawa, H. 2014. Autophagy inhibits viral genome replication and gene expression stages in West Nile virus infection. *Virus Res.*, **191**: 83–91. (doi: 10.1016/j.virusres.2014.07.016)
6) Muleya,, W., Sasaki, M., Orba, Y., Ishii, A., Thomas, Y., Nakagawa, M., Ogawa, H., Hangombe, B., Namangala, B., Mweene, A., Takada, A., Kimura, T. and Sawa, H. 2014. Molecular epidemiology of paramyxoviruses in frugivorous *Eidolon helvum* bats in Zambia. *J. Vet. Med. Sci.*, **76**: 611–614. (doi: 10.1292/jvms.13-0518)
7) Kesdangsakonwut, S., Sunden, Y., Aoshima, K., Iwaki, Y., Okumura, M., Sawa, H. and Umemura, T. 2014. Survival of rabid rabbits after intrathecal immunization. *Neuropathology*, **34**: 277–283. (doi: 10.1111/neup.12094)
8) Yamaguchi, H., Kobayashi, S., Maruyama, J., Sasaki, M., Takada, A., Kimura, T., Sawa, H. and Orba, Y. 2014. Role of the C-Terminal Region of Vervet Monkey Polyomavirus 1 VP1 in Virion Formation. *J. Vet. Med. Sci.*, **76**: 637–644. (doi: 10.1292/jvms.13-0568)
9) Simulundu, E., Nao, N., Yabe, J., Muto, N. A., Sithebe, T., Sawa, H., Manzoor, R., Kajihara, M., Muramatsu, M., Ishii, A., Ogawa, H., Mweene, A. S. and Takada, A. 2014. The zoonotic potential of avian influenza viruses isolated from wild waterfowl in Zambia. *Arch. Virol.*, **159**: 2633–2640. (doi: 10.1007/s00705-014-2124-1)
10) Nakayima, J., Hayashida, K., Nakao, R., Ishii, A., Ogawa, H., Nakamura, I., Moonga, L., Hang'ombe, B. M., Mweene, A. S., Thomas, Y., Orba, Y., Sawa, H. and Sugimoto, C. 2014. Detection and characterization of zoonotic pathogens of free-ranging non-human

primates from Zambia. *Parasit. Vectors*, **7**: 490. (doi: 10.1186/s13071-014-0490-x)
11) Kesdangsakonwut, S., Sunden, Y., Yamada, K., Nishizono, A., Sawa, H. and Umemura, T. 2015 Neurogenic cardiomyopathy in rabbits with experimentally induced rabies. *Vet. Pathol.*, **52**: 573–575. (doi: 10.1177/0300985814543197)

Division of Bioresources

Original articles

1) Okubo, T., Tosaka, Y., Sato, T., Usui, M., Nakajima, C., Suzuki, Y., Imura, S. and Tamura, Y. 2014. Bacterial Diversity in Sea Ice from the Southern Ocean and the Sea of Okhotsk. *J. Appl. Environ. Microbiol.*. **2**: 266–272. (doi: 10.12691/jaem-2-6-1)
2) Mori, K., Ohtani, K., Jang, S.-J., Kim, Y.-U., Hwang, I., Roy, N., Matsuda, Y., Suzuki, Y. and Wakamiya, Y. 2014. Scavenger receptor CL-P1 mainly utilizes a collagen-like domain to uptake microbes and modified LDL. *Biochim. Biophys. Acta.*, **1840**: 3345–3356. (doi: 10.1016/j.bbagen.2014.08.015)
3) Jang, S.-J., Ohtani, K., Fukuoh, A., Mori, K., Yoshizaki, T., Kitamoto, N., Kim, Y.-U., Suzuki, Y. and Wakamiya, N. 2014. Scavenger receptor CL-P1 mediates endocytosis by associating with AP-2μ2. *Biochim. Biophys. Acta.*, **1840**: 3226–3237. (doi: 10.1016/j.bbagen.2014.07.019)
4) Shiratori, B., Leano, P. S. A., Nakajima, C., Chagan-Yasutan, H., Niki, T., Ashino, Y., Suzuki, Y., Telan, E. F. O. and Hattori, T. 2014. Elevated OPN, IP-10 and neutrophilia in loop-mediated isothermal amplification confirmed tuberculosis patients. *Mediators Inflamm.*, **2014**: 513263. (doi: 10.1155/2014/513263)
5) Li, D., Dong, C. B., Cui, J. Y., Nakajima, C., Zhang, C. L., Pan, X. L., Sun, G. X., Dai, E. Y., Suzuki, Y., Zhuang, M. and Ling, H. 2014. Dominant modern sublineages and a new modern sublineage of *Mycobacterium tuberculosis* Beijing family clinical isolates in Heilongjiang Province, China. *Infect. Genet. Evol.*, **27**: 294–299. (doi: 10.1016/j.meegid.2014.08.004)
6) Changkaew, K., Utrarachkij, F., Siripanichgon, K., Nakajima, C., Suthienkul, O. and Suzuki, Y. 2014. Characterization of Antibiotic Resistance in *Escherichia coli* Isolated from Shrimps and Their Environment. *J. Food Protect.*, **77**: 1394–1401. (doi: 10.4315/0362-028X.JFP-13-510)
7) Ikebuchi, R., Konnai, S., Okagawa, T., Yokoyama, K., Nakajima, C., Suzuki, Y., Murata, S. and Ohashi, K. 2014. Influence of PD-L1 cross-linking on cell death in PD-L1-expressing cell lines and bovine lymphocytes. *Immunology*, **142**: 551–561. (doi: 10.1111/imm.12243)
8) Nishimori, A., Konnai, S., Ikebuchi, R., Okagawa, T., Nakajima, C., Suzuki, Y., Mingala, C. N., Murata, S. and Ohashi, K. 2014. Identification and characterization of bovine programmed death-ligand 2. *Microbiol. Immunol.*, **58**: 388–397. (doi: 10.1111/1348-0421.12160)
9) Zhou, M., Suganuma, K., Ruttayaporn, N., Nguyen, T.-T., Yamasaki, S., Igarashi, I., Kawazu, S., Suzuki, Y. and Inoue, N. 2014. Identification and characterization of a Trypanosoma congolense 46 kDa protein as a candidate serodiagnostic antigen. *J. Vet. Med. Sci.*, **76**: 799–806. (doi: 10.1292/jvms.13-0462)
10) Itoh, Y., Yoshida, R., Shichinohe, S., Higuchi, M., Ishigaki, H., Nakayama, M., Pham, V. L., Ishida, H., Kitano, M., Arikata, M., Kitagawa, N., Mitsuishi, Y., Ogasawara, K., Tsuchiya, H., Hiono, T., Okamatsu, M., Sakoda, Y., Kida, H., Ito, M., Mai, L. Q., Kawaoka, Y., Miyamoto, H., Ishijima, M., Igarashi, M.,

Suzuki, Y. and Takada, A. 2014. Protective Efficacy of Passive Immunization with Monoclonal Antibodies in Animal Models of H5N1 Highly Pathogenic Avian Influenza Virus Infection. *PLOS Pathog.*, **10**: e1004192. (doi: 10.1371/journal.ppat.1004192)

11) Maekawa, N., Konnai, S., Ikebuchi, R., Okagawa, T., Adachi, M., Takagi, S., Kagawa, Y., Nakajima, C., Suzuki, Y., Murata, S. and Ohashi, K. 2014. Expression of PD-L1 on canine tumor cells and enhancement of IFN-γ production from tumor-infiltrating cells by PD-L1 blockade. *PLOS ONE*, **9**: e98415. (doi: 10.1371/journal.pone.0098415)
12) Nishiuchi, Y., Tamaru, A., Suzuki, Y., Kitada, S., Maekura, R., Tateishi, Y., Niki, M., Ogura, H. and Matsumoto, S. 2014. Direct detection of *Mycobacterium avium* in environmental water and scale samples by loop-mediated isothermal amplification. *J. Water Health*, **12**: 211–219. (doi: 10.2166/wh.2013.007)
13) Paudel, S., Mikota, S. K., Nakajima, C., Gairhe, K. P., Maharjan, B., Thapa, J., Poudel, A., Shimozuru, M., Suzuki, Y. and Tsubota, T. 2014. Molecular characterization of *Mycobacterium tuberculosis* isolates from elephants of Nepal. *Tuberculosis*, **94**: 287–292. (doi: 10.1016/j.tube.2013.12.008)
14) Kim, H., Hong, Y., Shibayama, K., Suzuki, Y., Wakamiya, N. and Kim, Y.-U. 2014. Functional analysis of the receptor binding domain of SARS coronavirus S1 region and its monoclonal antibody. *Genes Genom.*, **36**: 387–397. (doi: 10.1007/s13258-014-0186-9)
15) Nguyen, T.-T., Zhou, M., Ruttayaporn, N., Nguyen, Q. D., Nguyen, V. K., Goto, Y., Suzuki, Y., Kawazu, S. and Inoue, N. 2014. Diagnostic value of the recombinant tandem repeat antigen TeGM6-4r for surra in water buffaloes. *Vet. Parasitol.*, **201**: 18–23. (doi: 10.1016/j.vetpar.2014.01.009)
16) Iwamoto, T., Arikawa, K., Nakajima, C., Nakanishi, N., Nishiuchi, Y., Yoshida, S., Tamaru, A., Tamura, Y., Hoshino, Y., Yoo, H., Park, Y. K., Saito, H. and Suzuki Y. 2014. Intra-subspecies sequence variability of the MACPPE12 gene in *Mycobacterium avium* subsp. Hominissuis. *Infect. Genet. Evol.*, **21**: 479–483. (doi: 10.1016/j.meegid.2013.08.010)

Division of Collaboration and Education

Original articles

1) Sokal, N., Nie, Y., Willis, L. G., Yamagishi, J., Blissard, G. W., Rheault, M. R. and Theilmann, D. A. 2014. Defining the roles of the baculovirus regulatory proteins IE0 and IE1 in genome replication and early gene transactivation. *Virology*, **468**–470: 160–171. (doi: 10.1016/j.virol.2014.07.044)
2) Yamagishi, J., Wakaguri, H., Yokoyama, N., Yamashita, R., Suzuki, Y., Xuan, X. and Igarashi, I. 2014. The *Babesia bovis* gene and promoter model: an update from full-length EST analysis. *BMC Genomics*, **15**: 678. (doi: 10.1186/1471-2164-15-678)
3) Youn, J. H., Park, Y. H., Hang'ombe, B. and Sugimoto, C. 2014. Prevalence and characterization of *Staphylococcus aureus* and *Staphylococcus pseudintermedius* isolated from companion animals and environment in the veterinary teaching hospital in Zambia, Africa. *Comp. Immunol. Microbiol. Infect. Dis.*, **37**: 123–130. (doi: 10.1016/j.cimid.2014.01.003)
4) Salim, B., Bakheit, M. A. and Sugimoto, C. 2014. Molecular detection of equine trypanosomes in the Sudan. *Vet. Parasitol.*, **200**: 246–250. (doi: 10.1016/j.vetpar.2013.09.002)
5) Ishida, K., Sekizuka, T., Hayashida, K., Matsuo, J., Takeuchi, F., Kuroda, M., Nakamura, S., Yamazaki, T., Yoshida, M.,

Takahashi, K., Nagai, H., Sugimoto, C. and Yamaguchi, H. 2014. Amoebal endosymbiont Neochlamydia genome sequence illuminates the bacterial role in the defense of the host amoebae against *Legionella pneumophila*. *PLOS ONE*, **9**: e95166. (doi: 10.1371/journal.pone.0095166)

6) Qiu, Y., Nakao, R., Ohnuma, A., Kawamori, F. and Sugimoto, C. 2014. Microbial population analysis of tick salivary glands; a possible strategy for the surveillance of bacterial pathogens. *PLOS ONE*, **9**: e103961. (doi: 10.1371/journal.pone.0103961)
7) Yamagishi, J., Natori, A., Tolba, M. E. M., Mongan, A. E., Sugimoto, C., Katayama, T., Kawashima, S., Makalowski, W., Maeda, R., Eshita, Y., Tuda, J. and Suzuki, Y. 2014. Interactive transcriptome analysis of malaria patients and infecting *Plasmodium falciparum*. *Genome Res.*, **24**: 1433–1444. (doi: 10.1101/gr.158980.113)
8) Youn, J. H., Hayashida, K., Koizumi, N., Ohnishi, M. and Sugimoto, C. 2014. Comparative genomic analysis of eight *Leptospira* strains from Japan and the Philippines revealing the existence of four putative novel genomic islands/islets in *L. interrogans* serovar Lai strain 56601. *Comp. Immunol. Microbiol. Infect. Dis.*, **37**: 289–297. (doi: 10.1016/j.cimid.2014.09.001)
9) Nakayima, J., Hayashida, K., Nakao, R., Ishii, A., Ogawa, H., Nakamura, I., Moonga, L., HangOmbe, B. M., Mweene, A. S., Thomas, Y., Orba, Y., Sawa, H. and Sugimoto, C. 2014. Detection and characterization of zoonotic pathogens of free-ranging non-human primates from Zambia. *Parasit. Vectors*, **7**: 490. (doi: 10.1186/s13071-014-0490-x)
10) Lisulo, M., Sugimoto, C., Kajino, K., Hayashida, K., Mudenda, M., Moonga, L., Ndebe, J., Nzala, S., Namangala, B. 2014. Determination of the prevalence of African trypanosome species in indigenous dogs of Mambwe district, eastern Zambia, by loop-mediated isothermal amplification. *Parasit. Vectors*, **7**: 19. (doi: 10.1186/1756-3305-7-19)

Review article

1) Sivakumar, T., Hayashida, K., Sugimoto, C. and Yokoyama, N. 2014. Evolution and genetic diversity of *Theileria*. *Infect. Genet. Evol.*, **27**: 250–263. (doi: 10.1016/j.meegid.2014.07.013)

Division of Bioinformatics

Original articles

1) Ueno, K., Ishii, A. and Ito, K., 2014. ELM: enhanced lowest common ancestor based method for detecting a pathogenic virus from a large sequence dataset. *BMC Bioinformatics*, **15**: 254. (doi: 10.1186/1471-2105-15-254)
2) Yoshii, K., Sunden, Y., Yokozawa, K., Igarashi, M., Kariwa, H., Holbrook, M. R. and Takashima, I. 2014. A critical determinant of neurological disease associated with highly pathogenic tick-borne flavivirus in mice. *J. Virol.*, **88**: 5406–5420. (doi: 10.1128/JVI.00421-14)
3) Itoh, Y., Yoshida, R., Shichinohe, S., Higuchi, M., Ishigaki, H., Nakayama, M., Pham, V. L., Ishida, H., Kitano, M., Arikata, M., Kitagawa, N., Mitsuishi, Y., Ogasawara, K., Tsuchiya, H., Hiono, T., Okamatsu, M., Sakoda, Y., Kida, H., Ito, M., Quynh, Mai L., Kawaoka, Y., Miyamoto, H., Ishijima, M., Igarashi, M., Suzuki, Y. and Takada, A., 2014. Protective efficacy of passive immunization with monoclonal antibodies in animal models of H5N1 highly pathogenic avian influenza virus infection. *PLOS Pathog.*, **10**: e1004192.

(doi: 10.1371/journal.ppat.1004192)
4) Ishii, A., Ueno, K., Orba, Y., Sasaki, M., Moonga, L., Hang'ombe, B. M., Mweene A. S., Umemura, T., Ito, K., Hall, W. W. and Sawa, H. 2014. A nairovirus isolated from African bats causes haemorrhagic gastroenteritis and severe hepatic disease in mice. *Nat. Commun.*, **5**: 5651. (doi: 10.1038/ncomms6651)

Division of Infection and Immunity

Original articles

1) Takei, Y., Ohnishi, N., Kisaka, M. and Mihara, K. 2014. Determination of abnormally expressed microRNAs in bone marrow smears from patients with follicular lymphomas. *SpringerPlus*, **3**: 288. (doi: 10.1186/2193-1801-3-288)
2) Yamada, K., Sudo, H., Iwasaki, K., Sasaki, N., Higashi, H., Kameda, Y., Ito, M., Takahata, M., Abumi, K., Minami, A. and Iwasaki, N. 2014. Caspase 3 Silencing Inhibits Biomechanical Overload-Induced Intervertebral Disk Degeneration. *Am. J. Pathol.*, **184**: 753–764. (doi: 10.1016/j.ajpath.2013.11.010)
3) Ohnishi, N., Maruyama, F., Ogawa, H., Kachi, H., Yamada, S., Fujikura, D., Nakagawa, I., Hang'ombe, M. B., Thomas, Y., Mweene, A. S. and Higashi, H. 2014. Genome Sequence of Bacillus anthracis Outbreak Strain in Zambia, 2011. *Genome Announc.*, **2**: e00116–14. (doi: 10.1128/genomeA.00116-14)
4) Manzoor, R., Kuroda, K., Yoshida, R., Tsuda, Y., Fujikura, D., Miyamoto, H., Kajihara, M., Kida, H. and Takada, A. 2014. Heat Shock Protein 70 Modulates Influenza A Virus Polymerase Activity. *J. Biol. Chem.*, **289**: 7599–7614. (doi: 10.1074/jbc.M113.507798)
5) Iwasaki, K., Sudo, H., Yamada, K., Higashi, H., Ohnishi, T., Tsujimoto, T. and Iwasaki, N. 2014. Effects of single injection of local anesthetic agents on intervertebral disc degeneration: ex vivo and long-term in vivo experimental study. *PLOS ONE*, **9**: e109851 (doi: 10.1371/journal.pone.0109851)
6) Higashi H. and Kida, H. 2014. Research Activities of Hokudai Center for Zoonosis Control in Zambia. *Journal of Disaster Research*, **9**: 818–822.

Unit of Risk Analysis and Management

Original articles

1) Alam, M. Z., Bhutto, A. M., Soomro, F. R., Baloch, J. H., Nakao, R., Kato, H., Schönian, G., Uezato, H., Hashiguchi, Y. and Katakura, K. 2014. Population genetics of Leishmania (Leishmania) major DNA isolated from cutaneous leishmaniasis patients in Pakistan based on multilocus microsatellite typing. *Parasit. Vectors.*, **7**: 332. (doi: 10.1186/1756-3305-7-332)
2) Qiu, Y., Nakao, R., Ohnuma, A., Kawamori, F. and Sugimoto, C. 2014. Microbial population analysis of the salivary glands of ticks; a possible strategy for the surveillance of bacterial pathogens. *PLOS ONE*, **9**: e103961. (doi: 10.1371/journal.pone.0103961)
3) Nakayima, J., Hayashida, K., Nakao, R., Ishii, A., Ogawa, H., Nakamura, I., Moonga, L., Hang Ombe, B. M., Mweene, A. S., Thomas, Y., Orba, Y., Sawa, H. and Sugimoto, C. 2014. Detection and characterization of zoonotic pathogens of free-ranging non-human primates from Zambia. *Parasit. Vectors.*, **7**: 490. (doi: 10.1186/s13071-014-0490-x)

Laboratory for Biologic Development

Original articles

1) Kasamatsu, J., Azuma, M., Oshiumi, H., Morioka, Y., Okabe, M., Ebihara, T., Matsumoto, M. and Seya, T. 2014. INAM plays a critical role in IFN-γ production by NK cells interacting with polyinosinic-polycytidylic acid-stimulated accessory cells. *J. Immunol.*, **193**: 5199–5207. (doi: 10.4049/jimmunol.1400924)
2) Okamoto, M., Oshiumi, H., Azuma, M., Kato, N., Matsumoto, M. and Seya, T. 2014. IPS-1 is essential for type III IFN production by hepatocytes and dendritic cells in response to hepatitis C virus infection. *J. Immunol.*, **192**: 2770–2777. (doi: 10.4049/jimmunol.1301459)
3) Takaki, H., Honda, K., Atarashi, K., Kobayashi, F., Ebihara, T., Oshiumi, H., Matsumoto, M., Shingai, M. and Seya, T. 2014. MAVS-dependent IRF3/7 bypass of interferon β-induction restricts the response to measles infection in CD150 Tg mouse bone marrow-derived dendritic cells. *Mol. Immunol.*, **57**: 100–110. (doi: 10.1016/j.molimm.2013.08.007)
4) Shime, H., Kojima, A., Maruyama, A., Saito, Y., Oshiumi, H., Matsumoto, M. and Seya, T. 2014. Myeloid-derived suppressor cells confer tumor-suppressive functions on natural killer cells via polyinosinic: polycytidylic acid treatment in mouse tumor models. *J. Innate Immun.*, **6**: 293–305. (doi: 10.1159/000355126)

Review article

1) Takaki, H., Oshiumi, H., Matsumoto, M. and Seya, T. 2014. Dendritic cell subsets involved in type I IFN induction in mouse measles virus infection models. *Int. J. Biochem. Cell Biol.*, **53**: 329–333 (doi: 10.1016/j.biocel.2014.05.001)