

6. Department of Parasitology

- Lee, Y. A., Saito-Nakano, Y., Kim, K. A., Min, A., Nozaki, T., Shin, M. H. Modulation of endogenous cysteine protease inhibitor (ICP) 1 expression in *Entamoeba histolytica* affects amoebic adhesion to extracellular matrix proteins. *Exp Parasitol.* 149C:7-15, 2014. doi: 10.1016/j.exppara.2014.12.001.
- Emmanuel, M., Saito-Nakano, Y, Nozaki, T., and Datta, S. Small GTPase Rab21 mediates Fibronectin induced actin reorganization in *Entamoeba histolytica*: implications in pathogen invasion. *PLoS Pathog* 11(3):e1004666, 2015. doi: 10.1371/journal.ppat.1004666.
- Santos, H. J.,*, Imai, K.*, Makiuchi, T., Tomii, K., Horton, P., Nozawa, A., Ibrahim, M., Tozawa, Y., and Nozaki, T. A novel mitochondrial β -barrel outer membrane protein in *Entamoeba*. *Sci Rep* 5:8545, 2015. doi: 10.1038/srep08545. (* equal contribution)
- Penuliar, G. M., Nakada-Tsukui, K., and Nozaki, T. Phenotypic and transcriptional profiling in *Entamoeba histolytica* reveal costs to fitness and adaptive responses associated with metronidazole resistance. "Antimicrobials, Resistance and Chemotherapy", *Front Microbiol.* 6:354, 2015. doi: 10.3389/fmicb.2015.00354. eCollection.
- Picazarri, K.,* Nakada-Tsukui, K.,* Tsuboi, K., Miyamoto, E., Watanabe, N., Kawakami, E., and Nozaki, T. Atg8 is involved in endosomal and phagosomal acidification in the parasitic protist *Entamoeba histolytica*. *Cell Microbiol* 17, 1510-1522, 2015 (* equal contribution) doi: 10.1111/cmi.12453
- Mi-ichi, F.,# Miyamoto, T., Takao, S., Jeelani, G., Hashimoto, T., Hara, H., Nozaki, T.,# and Yoshida, H. *Entamoeba* mitochondria play an important role in encystation by association with cholesteryl sulfate synthesis. *Proc Natl Acad Sci USA* 112(22):E2884-90, 2015. doi: 10.1073/pnas.1423718112. (# correspondence) pii: 201423718.
- Takeuchi, F., Sekizuka, T., Ogasawara, Y., Yokoyama, H., Kamikawa, R., Inagaki, Y., Nozaki, T., Sugita-Konishi, T., Ohnishi, T, and Kuroda, M. The mitochondrial genomes of a myxozoan genus *Kudoa* are extremely divergent in Metazoa. *PLoS ONE* 10(7):e0132030, 2015. doi: 10.1371/journal.pone.0132030. eCollection 2015.
- Takeuchi, F., Ogasawara, Y., Kato, K., Sekizuka, T., Nozaki, T., Sugita-Konishi, Y., Ohnishi, T., and Kuroda, M. Development of nucleotide sequence typing for *Kudoa septempunctata*, a flounder parasite causing foodborne disease. *J Fish Dis* 39:667-72, 2015. doi:10.1111/jfd.12395..
- Mishra, V., Kumar, A., Ali, V., Zhang, K.Y., and Nozaki, T. Characterization of pH-induced transitions of *Entamoeba histolytica* D-phosphoglycerate dehydrogenase. *Int J Biol Macromol.* 2015 79:284-289. doi: 10.1016/j.ijbiomac.2015.04.058. [Epub ahead of print]
- Verma, K., Saito-Nakano, Y., Nozaki, T., and Datta, S. Insights into endosomal maturation of human holo-transferrin in the enteric parasite *Entamoeba histolytica*: essential roles of Rab7A and Rab5 in biogenesis of giant early endocytic vacuoles. *Cell Microbiol.* 17(12):1779-1796, 2015. doi: 10.1111/cmi.12470.
- Mori, M., Jeelani, G., Masuda, Y., Sakai, K., Nakada-Tsukui, K., Waluyo, D., Tarwadi, Watanabe, Y., Nonaka, K., Matsumoto, A., Omura, S., Nozaki, T.#, and Shiomi, K.# Identification of natural inhibitors of *Entamoeba histolytica* cysteine synthase from microbial secondary metabolites. *Front Microbiol.* 6, 962, 2015. doi: 10.3389/fmicb.2015.00962 (# correspondence)
- Chiba, Y., Kamikawa, R., Nakada-Tsukui, K, Saito-Nakano, Y., and Nozaki, T. Discovery of

- PPi-type phosphoenolpyruvate carboxykinase genes in eukaryotes and bacteria. *J Biol Chem* 290, 23960-23970, 2015. doi: 10.1074/jbc.M115.672907
- Mi-ichi, F. *, Nozawa, A. *, Yoshida, H., Tozawa, Y. #, Nozaki, T. # Evidence that *Entamoeba histolytica* mitochondrial carrier family links mitochondrial and cytosolic pathways through exchange of PAPS and ATP. *Eukaryot Cell* 14(11):1144-1150, 2015 (*Equal first authors; #Double correspondence) doi: 10.1128/EC.00130-15.
- Srivastava, V. K., Chandra, M., Saito-Nakano, Y., Nozaki, T., Datta, S. Crystal structure analysis of wild type and fast hydrolyzing mutant of EhRabX3, a tandem Ras superfamily GTPase from *Entamoeba histolytica*. *J Mol Biol.* 428(1):41-51, 2015 Nov 7. pii: S0022-2836(15)00624-5. doi: 10.1016/j.jmb.2015.11.003.
- Santos, H. J., Imai, K., Hanadate, Y., Fukasawa, Y., Oda, T., Mi-ichi, F., and Nozaki, T. Screening and discovery of lineage-specific mitochondrial membrane proteins in *Entamoeba histolytica*. *Mol. Biochem. Parasitol.* 209(1-2):10-17, 2016. doi: 10.1016/j.molbiopara.2016.01.001.
- Jeelani, G. and Nozaki, T. *Entamoeba* thiol-based redox metabolism: a potential target for drug development. *Mol. Biochem. Parasitol.* 207(2):56-60, 2016. doi: 10.1016/j.molbiopara.2016.01.004.
- Pineda, E., Vázquez, C., Encalada, R., Nozaki, T., Sato, E., Hanadate, Y., Néquiz, M., Olivos-García, A., Moreno-Sánchez, R., Saavedra, E. Roles of acetyl-CoA synthetase (ADP-forming) and acetate kinase (PPi-forming) in ATP and PPi supply in *Entamoeba histolytica*. *Biochim. Biophys. Acta* 1860(6):1163-1172, 2016. doi: 10.1016/j.bbagen.2016.02.010.
- Yamaguchi H, Matsuo J, Yamazaki T, Ishida K, Yagita K, Draft Genome Sequence of High-Temperature-Adapted Protochlamydia sp. HS-T3, an Amoebal Endosymbiotic Bacterium Found in *Acanthamoeba* Isolated from a Hot Spring in Japan. *Genome Announc.* 3(1). pii: e01507-14. doi: 10.1128/genomeA.01507-14. 2015
- Itoh K, Yagita K, Nozaki T, Katano H, Hasegawa H, Matsuo K, Hosokawa Y, Tando S, Fushiki S, An autopsy case of *Balamuthia mandrillaris* amoebic encephalitis, a rare emerging infectious disease, with a brief review of the cases reported in Japan. *Neuropathology* 35(1):64-9, 2015
- Kobayashi S, Tsukadaira A, Kobayashi S, Izumiyama S, Yoon HS. Amoebic encephalitis in a farmer. *Pathology.* 47(7), 720-722, 2015.
- Rahman M, Alauddin M, Hossain KM, Islam MH, Kitoh K, Nagamune K, Takashima Y, Prevalence and dynamics of antibodies against *Toxoplasma gondii* in kids born from naturally infected goats. *Parasitol. Int.* 64 (5), 389-391, 2015
- Bhat HB, Ishitsuka R, Inaba T, Murate M, Abe M, Makino A, Kohyama-Koganeya A, Nagao K, Kurahashi A, Kishimoto T, Tahara M, Yamano A, Nagamune K, Hirabayashi Y, Jyuni N, Umeda M, Fujimori F, Nishibori K, Yamaji-Hasegawa A, Greimel P, Kobayashi T, Evaluation of aegerolysins as novel tools to detect and visualize ceramide phosphoethanolamine, a major sphingolipid in invertebrates." *FASEB J.* 29 (9), 3920-34, 2015
- Matsubara R, Aonuma H, Kojima M, Tahara M, Andrabi SBA, Sakakibara H, Nagamune K, Plant Hormone Salicylic Acid Produced by a Malaria Parasite Controls Host Immunity and Cerebral Malaria Outcome. *PLoS ONE* 10 (10), e0140559, 2015
- Ybañez RH, Leesombun A, Nishimura M, Matsubara R, Kojima M, Sakakibara H, Nagamune K, Nishikawa Y, *In vitro* and *in vivo* effects of the phytohormone inhibitor fluridone against *Neospora caninum* infection. *Parasitol. Int.* 65 (4), 319-322, 2016
- Tahara M, Andrabi SBA, Matsubara R, Aonuma H, Nagamune K, A host cell membrane microdomain is a critical factor for organelle discharge by

- Toxoplasma gondii*. Parasitol. Int. 65 (5), 378–388, 2016
- Lim PKC, Yamasaki H, Mak JW, Wong SF, Chong CW, Yap IKS, Ambu S, Kumarasamy V. Field evaluation of a rapid diagnostic test to detect antibodies in human toxocariasis. Acta Trop, 148:32–37, 2015.
- Weitzel T, Sugiyama H, Yamasaki H, Ramirez C, Rosas R, Mercado R, Human infections with *Pseudoterranova cattani* nematodes, Chile. Emerg Infect Dis, 21, 1874–1875, 2015.
- Takamiya S., Hashimoto M., Mita T., Yokota T., Nakajima Y., Yamakura F., Sugio S., Fujimura T., Ueno T., Yamasaki H. Bioinformatic identification of cytochrome *b*₅ homologues from the parasitic nematode *Ascaris suum* and the free-living nematode *Caenorhabditis elegans* highlights the crucial role of *A. suum* adult-specific secretory cytochrome *b*₅ in parasitic adaptation. Parasitol Int, 65:113–120, 2015.
- Sugiyama H, Shibata K, Arakawa K, Morishima Y, Yamasaki H, Gokudan M, Iwakiri T, Fukumori J, Paragonimiasis due to the consumption of wild boar meat in Japan: Contamination levels of lung fluke larvae in muscle samples of wild boars caught in the Kagoshima Prefecture. Jpn J Infect Dis, 68, 536–537, 2015.
- Singh TS, Sugiyama H, Devi KR, Singh WA, First case of *Paragonimus westermani* infection in a female patient in India. Indian J Med Microbiol, 33 (Suppl), 156–159, 2015.
- Hayashi K, Ichikawa-Seki M, Mohanta UK, Singh TS, Shoriki T, Sugiyama H, Itagaki T. Molecular phylogenetic analysis of *Fasciola* flukes from eastern India. Parasitol Int, 64, 334–338, 2015.
- Li J, Zhao GH, Lin R, Blair D, Sugiyama H, Zhu XQ, Rapid detection and identification of four major *Schistosoma* species by high-resolution melt (HRM) analysis. Parasitol Res, 114, 4225–4232, 2015.
- Li J, Chen F, Sugiyama H, Blair D, Lin RQ, Zhu XQ, A specific indel marker for the Philippines *Schistosoma japonicum* revealed by analysis of mitochondrial genome sequences. Parasitol Res, 114, 2697–2704, 2015.
- Chen F, Li J, Sugiyama H, Zhou DH, Song HQ, Zhao GH, Zhu XQ, Genetic variability among *Schistosoma japonicum* isolates from the Philippines, Japan and China revealed by sequence analysis of three mitochondrial genes. Mitochondrial DNA, 26, 35–40, 2015.
- Sanpool O, Intapan PM, Thanchomngang T, Janwan P, Laymanivong S, Sugiyama H, Maleewong W, Morphological and molecular identification of a lung fluke, *Paragonimus macrorchis* (Trematoda, Paragonimidae), found in central Lao PDR and its molecular phylogenetic status in the genus *Paragonimus*. Parasitol Int, 64, 513–518, 2015.
- Fujita R, Koizumi N, Sugiyama H, Tomizawa R, Sato R, Ohnishi M, Comparison of bacterial burden and cytokine gene expression in golden hamsters in early phase of infection with two different strains of *Leptospira interrogans*. PLoS One, 10(7):e0132694, 1–16, 2015.
- Calvopina, M., Cevallos, W., Atherton, R., Saunders, M., Small, A., Kumazawa, H., Sugiyama, H. High prevalence of the liver fluke *Amphimerus* sp. in domestic cats and dogs in an area for human amphimeriasis in Ecuador. PLoS Negl Trop Dis, 9(2):e0003526, 1–9, 2015.
- Rijpma SR, van der Velden M, González-Pons M, Annoura T, van Schaijk BC, van Gemert GJ, van den Heuvel JJ, Ramesar J, Chevalley-Maurel S, Ploemen IH, Khan SM, Franetich JF, Mazier D, de Wilt JH, Serrano AE, Russel FG, Janse CJ, Sauerwein RW, Koenderink JB, Franke-Fayard BM. Multidrug ABC transporters are essential for hepatic development of *Plasmodium* sporozoites. Cell Microbiol. Mar;18(3):369–83. 2016.
- Lin JW, Spaccapelo R, Schwarzer E, Sajid M, Annoura T, Deroost K, Ravelli RB, Aime E, Capuccini B, Mommaas-Kienhuis AM, O’Toole T, Prins F, Franke-Fayard BM, Ramesar J, Chevalley-Maurel S, Kroeze H, Koster AJ, Tanke HJ, Crisanti A, Langhorne J, Arese P, Van den Steen PE, Janse CJ, Khan SM. Replication of *Plasmodium* in reticulocytes can occur without hemozoin formation, resulting in chloroquine resistance. J Exp Med. Jun 1;212(6):893–903. 2015.
- De Niz M, Helm S, Horstmann S, Annoura T, Del Portillo HA, Khan SM, Heussler VT. *In vivo* and *in vitro* characterization of a *Plasmodium* liver stage-specific promoter. PLoS One. Apr 15;10(4):e0123473. 2015.
- Hanadate Y, Saito-Nakano Y, Nakada-Tsukui K, Nozaki

T. Endoplasmic reticulum-resident Rab8A GTPase is involved in phagocytosis in the protozoan parasite *Entamoeba histolytica*. Cell. Microbiol. Jan 25. 2016.