

LIST OF PUBLICATIONS
2011-2015

390. Kautz-Neu, K., Kostka, S. L., Dinges, S., Iwakura, Y., Udey, M. C., and Von Stebut, E. IL-1 signaling is dispensable for protective immunity in Leishmania-resistant mice. *Exp. Dermatol.*, **20**, 76-78 (2011).
391. Shikama, Y., Kuroishi, T., Nagai, Y., Iwakura, Y., Shimauchi, H., Takada, H., Sugawara, S., and Endo, Y. Muramyldipeptide augments the actions of lipopolysaccharide in mice by stimulating macrophages to produce pro-IL-1 β and by down-regulation of suppressor of cytokine signaling 1 (SOCS1). *Innate Immun.*, **17**, 54-59 (2011).
392. Hata, T., Takahashi, M., Hida, S., Kawaguchi, M., Kashima, Y., Usui, F., Morimoto, H., Nishiyama, A., Izawa, A., Koayama, J., Iwakura, Y., Taki, S., and Ikeda, U. Critical role of Th17 cells in inflammation and neovascularization after ischemia. *Cardiovascular Res.*, **90**, 364-372 (2011).
393. Cho, J. S., Zussman, J., Donegan, N. P., Ramos, R. I., Garcia, N. C., Uslan, D. Z., Iwakura, Y., Simon, S. I., Cheung, A. L., Modlin, R. L., Kim, J., and Miller, L. S. Noninvasive in vivo imaging to evaluate immune responses and antimicrobial therapy against *Staphylococcus aureus* and USA300 MRSA skin infection. *J. Invest. Dermatol.*, **131**, 907-915 (2011).
394. Murakami, M., Okuyama, Y., Ogura, H., Asano, S., Arima, Y., Tsuruoka, M., Harada, M., Kanamoto, M., Sawa, Y., Iwakura, Y., Takatsu, K., Kamimura, D., and Hirano, T. Local microbleeding facilitates IL-6- and IL-17-dependent arthritis in the absence of tissue antigen recognition by activated T cells. *J. Exp. Med.*, **208**, 103-114 (2011).
395. Rivera, A., Hohl, T. M., Collins, N., Leiner, I., Gallegos, A., Saijo, S., Coward, J. W., Iwakura, Y., and Pamer, E. G. Dectin-1 diversifies

- Aspergillus fumigatus*-specific T cell responses by inhibiting T helper type 1 CD4 T cell differentiation. *J. Exp. Med.*, **208**, 369-381 (2011).
396. Bhatia, S., Fei, M., Yarlagadda, M., Qi, Z., Akira, S., Saijo, S., Iwakura, Y., van Rooijen, N., Gibson, G. A., St Croix, C. M., Ray, A., and Ray, P. Rapid host defense against *Aspergillus fumigatus* involves alveolar macrophages with a predominance of alternatively activated phenotype. *PLoS One*, **6**, e15943 (2011).
397. Andrews, D. M., Chow, M. T., Ma, Y., Cotterell, C. L., Watt, S. V., Anthony, D. A., Akira, S., Iwakura, Y., Trapani, J. A., Zitvogel, L., and Smyth, M. J. Homeostatic defects in interleukin 18-deficient mice contribute to protection against the lethal effects of endotoxin. *Immunol. Cell Biol.*, **89**, 739-746 (2011).
398. Drummond, R. A., Saijo, S., Iwakura, Y., and Brown, G. D. The Role of Syk/CARD9 coupled C-type lectins in antifungal immunity. *Eur. J. Immunol.*, **41**, 276-281 (2011).
399. Tanaka, S., Kondo, H., Kanda, K., Ashino, T., Nakamachi, T., Sekikawa, K., Iwakura, Y., Shioda, S., Numazawa, S., and Yoshida, T. Involvement of interleukin-1 in lipopolysaccharide-induced microglial activation and learning and memory deficits. *J. Neurosci., Res.*, **31**, 5699-5709 (2011).
400. Chida, D., Miyoshi, K., Sato, T., Yoda, T., Kikusui, T., and Iwakura, Y. The role of glucocorticoids in pregnancy, parturition, lactation, and nurturing in melanocortin receptor 2-deficient mice. *Endocrinology*, **152**, 1652-1660 (2011).
401. Sharma, A. K., LaPar, D. J., Zhao, Y., Li, L., Lau, C. L., Kron, I. L., Iwakura, Y., Okusa, M. D., and Laubach, V. E. Natural killer T cell-derived IL-17 mediates lung ischemia-reperfusion injury. *Am. J. Respir. Crit. Care Med.*, **183**, 1539-1549 (2011).
402. Ishigame, H., Nakae, S., and Iwakura, Y. The roles of IL-17A and IL-17F in mucosal infection and allergy. In "*Th17 cells in health and disease*", (ed. S. Jiang) (ISBN 978-1-4419-9370-0). Springer

- Science + Buisness Media, LLC2011, New York, NY, p. 269-297 (2011).
403. Sharma, A. K., LaPar, D. J., Zhao, Y., Li, L., Lau, C. L., Kron, I. L., Iwakura, Y., Okusa, M. D., and Laubach, V. E. Natural killer T cell–derived IL-17 mediates lung ischemia–reperfusion injury. *Am. J. Respir. Crit. Care Med.*, **183**, 1539-1549 (2011).
404. Zhou, Y., Sonobe, Y., Akahori, T., Jin, S., Kawanokuchi, J., Noda, M., Iwakura, Y., Mizuno, T., and Suzumura, A. IL-9 promotes Th17 cell migration into the cetral nervous system via CC chemokine ligand-20 produced by astrocytes. *J. Immunol.*, **186**, 4415-4421 (2011).
405. Nakajima, K., Kanda, T., Takaishi, M., Miyoshi, K., Nakajima, H., Kamijima, R., Tarutani, M., Benson, J. M., Elloso, M. M., Iwakura, Y., DiGiovanni, J., and Sano, S. Distinct roles of IL-23 and IL-17 in the development of psoriasis-like lesions in a mouse model. *J. Immunol.*, **186**, 4481-4489 (2011).
406. Iwakura, Y., Ishigame, H., Saijo, S., and Nakae, S. Functional specialization of IL-17 family members. *Immunity*, **34**, 149-162 (2011). Selected for the Immunity Best of 2011.
407. Piao, J. H., Hasegawa, M., Heissig. B., Hattori, K., Takeda, K., Iwakura, Y., Okumura, K., Inohara, N., and Nakano, H. Tumor necrosis factor receptor-associated factor (Traf) 2 controls homeostasis of the colon to prevent spontaneous development of murine inflammatory bowel disease. *J. Biol. Chem.*, **286**, 17879-17888 (2011).
408. Fei, M., Bhatia, S., Oriss, T. B., Yarlagaadda, M., Khare, A., Akira, S., Saijo, S., Iwakura, Y., Fallert Junecko, B. A., Reinhart, T. A., Foreman, O., Ray, P., Kolls, J., and Ray, A. TNF- α from inflammatory dendritic cells (DCs) regulates lung IL-17A/IL-5 levels and neutrophilia versus eosinophilia during persistent fungal infection. *Proc. Natl. Acad. Sci. USA*, **108**, 5360-5365 (2011).

409. Besnard, A. G., Guillou, N., Tschopp, J., Erard, F., Couillin, I., Iwakura, Y., Quesniaux, V., Ryffel, B., and Togbe, D. NLRP3 inflammasome is required in murine asthma in the absence of aluminum adjuvant. *Allergy*, **66**, 1047-1057 (2011).
410. Bernthal, N. M., Pribaz, J. R., Stavrakis, A. I., Billi, F., Cho, J. S., Ramos, R. I., Francis, K. P., Iwakura, Y., and Miller, J. S. Protective role of IL-1 β against post-arthroplasty *Staphylococcus aureus* infection. *J. Orthopaedic Res.*, **29**, 1621-1626 (2011).
411. Madhur, M. S., Funt, S. A., Li, L., Vinh, A., Chen, W., Lob, H. E., Iwakura, Y., Blinder, Y., Rahman, A., Quyyumi, A. A., and Harrison, D. G. Role of interleukin 17 in inflammation, atherosclerosis, and vascular function in apolipoprotein E-deficient mice. *Arterioscler. Thromb. Vasc. Biol.*, **31**, 1565-1572 (2011).
412. Brereton, C. F., Sutton, C. E., Ross, P. J., Iwakura, Y., Pizza, M., Rappuoli, R., Lavelle, E. C., and Mills, K. H. *Escherichia coli* heat-labile enterotoxin promotes protective Th17 responses against infection by driving innate IL-1 and IL-23 production. *J. Immunol.*, **186**, 5896-5906 (2011).
413. Kamanaka, M., Huber, S., Zenewicz, L. A., Gagliani, N., Rathinam, C., O'Connor, W. Jr., Wan, Y. Y., Nakae, S., Iwakura, Y., Hao, L., and Flavell, R. A. Memory/effector (CD45RB^{lo}) CD4 T cells are controlled directly by IL-10 and cause IL-22-dependent intestinal pathology. *J. Exp. Med.*, **208**, 1027-1040 (2011).
414. Kautz-Neu, K., Kostka, S. L., Dinges, S., Iwakura, Y., Udey, M. C., and von Stebut, E. A role for leukocyte-derived IL-1RA in DC homeostasis revealed by increased susceptibility of IL-1RA-deficient mice to cutaneous leishmaniasis. *J. Invest. Dermatol.*, **131**, 1650-1659 (2011).
415. Qi, C., Cai, Y., Gunn, L., Ding, C., Li, B., Kloecker, G., Qian, K., Vasilakos, J., Saijo, S., Iwakura, Y., Yannelli, J. R., and Yan, J. Differential pathways regulating innate and adaptive anti-tumor immune

- responses by particulate and soluble yeast-derived beta-glucans. *Blood*, **117**, 6825-6836 (2011).
416. Shibata, K., Yamada, H., Sato, T., Dejima, T., Nakamura, M., Ikawa, T., Hara, H., Yamasaki, S., Kageyama, R., Iwakura, Y., Kawamoto, H., Toh, H., and Yoshikai, Y. Notch-Hes 1 pathway is required for the development of IL-17-producing $\gamma\delta$ T cells. *Blood*, **118**, 586-593 (2011).
417. Neveu, W. A., Bernardo, E., Allard, J. L., Nagaleekar, V., Wargo, M. J., Davis, R. J., Iwakura, Y., Whittaker, L. A., and Rincon, M. Fungal allergen β -glucans trigger p38 MAPK-mediated IL-6 translation in lung epithelial cells. *Am. J. Respir. Cell Mol. Biol.*, **45**, 1133-1141 (2011).
418. Saijo, S., and Iwakura, Y. Dectin-1 and Dectin-2 in innate immunity against fungi. *Int. Immunol.*, **23**, 467-472 (2011).
419. Wakabayashi, C., Kiyama, Y., Kunugi, H., Manabe, T., and Iwakura, Y. Age-dependent regulation of depression-like behaviors through modulation of adrenergic receptor $\alpha(1A)$ subtype expression revealed by the analysis of interleukin-1 receptor antagonist knockout mice. *Neuroscience*, **192**, 475-484 (2011).
420. Odobasic, D., Gan, P. Y., Summers, S. A., Semple, T. J., Muljadi, R. C., Iwakura, Y., Kitching, A. R., and Holdsworth, S. R. Interleukin-17A promotes early but attenuates established disease in crescentic glomerulonephritis in mice. *Am. J. Pathol.*, **179**, 1188-1198 (2011).
421. Esplugues, E., Huber, S., Gagliani, N., Hauser, A. E., Town, T., Wan, Y. Y., O'Connor, W., Rongvaux, A., Van Rooijen, N., Haberman, A. M., Iwakura, Y., Kuchroo, V. K., Kolls, J. K., Bluestone, J. A., Herold, K. C., and Flavell, R. A. Control of T(H)17 cells occurs in the small intestine. *Nature*, **475**, 514-518 (2011).
422. Cantini, G., Pisati, F., Mastropietro, A., Frattini, V., Iwakura, Y., Finocchiaro, G., and Pellegatta, S. A critical role for regulatory T cells in driving cytokine profiles of Th17 cells and their modulation of

- glioma microenvironment. *Cancer Immunol. Immunotherapy*, **60**, 1739-1750 (2011).
423. Hayakawa, Y., Sato-Matsushita, M., Takeda, K., Iwakura, Y., Tahara, H., and Irimura, T. Early activation and IFN- γ production of tumor infiltrating mature CD27(high) NK cells. *Cancer Sci.*, **102**, 1967-1971 (2011).
 424. Takahashi, H., Kouno, M., Nagao, K., Wada, N., Hata, T., Nishimoto, S., Iwakura, Y., Yoshimura, A., Yamada, T., Kuwana, M., Fujii, H., Koyasu, S., and Amagai, M. Desmoglein 3-specific CD4⁺ T cells induce pemphigus vulgaris and interface dermatitis in mice. *J. Clin. Invest.*, **121**, 3677-3688 (2011).
 425. Horie I, Abiru N, Sakamoto H, Iwakura Y, and Nagayama Y. Induction of autoimmune thyroiditis by depletion of CD4⁺CD25⁺ regulatory T cells in thyroiditis-resistant IL-17, but not interferon-gamma receptor, knockout nonobese diabetic-H2h4 mice. *Endocrinology*, **152**, 4448-4458 (2011).
 426. Dejima, T., Shibata, K., Yamada, H., Hara, H., Iwakura, Y., Naito, S., and Yoshikai, Y. A protective role of naturally occurring IL-17A-producing $\gamma\delta$ T cells in the lung at the early stage of systemic candidiasis in mice. *Infect. Immun.*, **79**, 4503-4510 (2011).
 427. Nadeau, S., Filali, M., Zhang, J., Kerr, B. J., Rivest, S., Soulet, D., Iwakura, Y., de Rivero Vaccari, J. P., Keane, R. W., and Lacroix, S. Functional recovery after peripheral nerve injury is dependent on the proinflammatory cytokines IL-1 β and TNF: implications for neuropathic pain. *J. Neurosci.*, **31**, 12533-12542 (2011).
 428. Itoh, S., Kimura, N., Axtell, R. C., Velotta, J. B., Gong, Y., Wang, X., Kajiwar, N., Nambu, A., Shimura, E., Adachi, H., Iwakura, Y., Saito, H., Okumura, K., Sudo, K., Steinman, L., Robbins, R. C., Nakae, S., and Fischbein, M. P. Interleukin-17 accelerates allograft rejection by suppressing regulatory T cell expansion. *Circulation*, **124**, S187-196 (2011).

429. Yoshida, T., Yasumura, M., Uemura, T., Lee, S. J., Ra, M., Taguchi, R., Iwakura, Y., and Mishina, M. IL-1 receptor accessory protein-like 1 associated with mental retardation and autism mediates synapse formation by trans-synaptic interaction with protein tyrosine phosphatase δ . *J. Neurosci.*, **31**, 13485-13499 (2011).
430. Yokoyama, K., Tezuka, T., Kotani, M., Nakazawa, T., Hoshina, N., Shimoda, Y., Kakuta, S., Sudo, K., Watanabe, K., Iwakura, Y., and Yamamoto, T. NYAP: a phosphoprotein family that links PI3K to WAVE1 signaling in neurons. *EMBO J.* **30**, 4739-4754 (2011).
431. Xu, M., Morishima, N., Mizoguchi, I., Chiba, Y., Fujita, K., Kuroda, M., Iwakura, Y., Cua, D. J., Yasutomo, K., Mizuguchi, J., and Yoshimoto, T. Regulation of the development of acute hepatitis by IL-23 through IL-22 and IL-17 production. *Eur. J. Immunol.*, **41**, 2828-2839 (2011).
432. Kojima, M., Ashino, T., Yoshida, T., Iwakura, Y., and Degawa, M. Interleukin-1 controls the constitutive expression of the cyp7a1 gene by regulating the expression of cyp7a1 transcription regulators in the mouse liver. *Biol. Pharm. Bull.*, **34**, 1644-1647 (2011).
433. Satou, N., Ishihara, K., Hiratsuka, M., Tanaka, H., Endo, Y., Saito, S., Iwakura, Y., Leonard, W. J., and Hirasawa, N. Induction of thymic stromal lymphopoietin production by xylene and exacerbation of picryl chloride-induced allergic inflammation in mice. *Int. Arch. Allergy Immunol.*, **157**, 194-201 (2011).
434. Ashino, T., Sugiuchi, J., Uehara, J., Naito-Yamamoto, Y., Kenmotsu, S., Iwakura, Y., Shioda, S., Numazawa, S., and Yoshida, T. Auranofin protects against cocaine-induced hepatic injury through induction of heme oxygenase-1. *J. Toxicol. Sci.*, **36**, 635-643 (2011).
435. Yan, H., Kakuta, S., Nishihara, M., Sugi, M., Adachi, Y., Ohno, N., Iwakura, Y., and Tsuji, N. M. *Kjellmaniella crassifolia* Miyabe (Gagome) extract modulates intestinal and systemic immune responses. *Biosci. Biotechnol. Biochem.*, **75**, 2178-2183 (2011).

436. Oshiro, K., Kohama, H., Umemura, M., Uyttenhove, C., Inagaki-Ohara, K., Arakawa, T., Harada, M., Nakae, S., Iwakura, Y., Nishimaki, T., and Matsuzaki, G. Interleukin-17A is involved in enhancedment of tumor progression in murine intestine. *Immunobiology*, **217**, 54-60 (2012).
437. Nakamura, Y., Terahara, M., Iwamoto, T., Yamada, K., Asano, M., Kakuta, S., Iwakura, Y., and Totsuka, M. Up-regulation of polymeric immunoglobulin receptor expression by the heat-inactivated potential probiotic *Bifidocacterium bifidum* OLB6378 in a mouse intestinal explant model. *Scand. J. Immunol.*, **75**, 176-183 (2012).
438. Seki, T., Kumagai, T., Kwansa-Bentum, B., Furushima-Shimogawara, R., Anyan, W. K., Miyazawa, Y., Iwakura, Y., and Ohta, N. IL-4/IL-13 suppress excessive neutrophil infiltration and hepatocyte damage during acute murine schistosomiasis japonica. *Infect. Immun.*, **80**, 159-168 (2012).
439. Nishimori, H., Maeda, Y., Teshima, T., Sugiyama, H., Kobayashi, K., Yamasuji, Y., Kadohisa, S., Uryu, H., Takeuchi, K., Tanaka, T., Yoshino, T., Iwakura, Y., and Tanimoto, M. Synthetic retinoid Am80 ameliorates chronic graft-versus-host disease by downregulating Th1 and Th17. *Blood*, **119**, 285-295 (2012).
440. Nishimura, S., Manabe, I., Nagasaki, M., Kakuta, S., Iwakura, Y., Takayama, N., Ooehara, J., Otsu, M., Kamiya, A., Petrich, B., Urano, T., Kadono, T., Sato, S., Aiba, A., Yamashita, H., Sugiura, S., Kadowaki, T., Nakauchi, H., Eto, K., and Nagai, R. *In vivo* imaging visualizes discoid platelet aggregations without endothelium disruption and implicates contribution of inflammatory cytokine and integrin signaling. *Blood*, **119**, e45-56 (2012).
441. Danzaki, K., Matsui, Y., Ikesue, M., Ohta, D., Ito, K., Kanayama, M., Kurotaki, D., Morimoto, J., Iwakura, Y., Yagita, H., Tsutsui, H., and Uede, T. Interleukin-17A deficiency accelerates unstable atherosclerotic plaque formation in apolipoprotein E-deficeint mice. *Arterioscler. Thromb. Vasc. Biol.*, **32**, 273-280, (2012)

442. Kimizuka, Y., Kimura, S., Saga, T., Ishii, M., Hasegawa, N., Betsuyaku, T., Iwakura, Y., and Tateda, T. Roles of IL-17 in an experimental *Legionella pneumonia* model. *Infect. Immun.*, **80**, 1121-1127 (2012).
443. Botelho, F. M., Bauer, C. M. T., Finch, D., Nikota, J. K., Zavitz, C. C. J., Kelly, A., Lambert, K. N., Piper, S., Foster, M. L., Goldring, J. J. P., Wedzicha, J. A., Bassett, J., Bramson, J., Iwakura, Y., Sleeman, M., Kolbeck, R., Coyle, A. J., Humbles, A. A., and Stämpfli, M. R. IL-1 α /IL-1R1 expression in chronic obstructive pulmonary disease and mechanistic relevance to smoke-induced neutrophilia in mice. *PLoS ONE*, **6**, e28457 (2011).
444. Liao, Y. H., Xia, N., Zhou, S. F., Tang, T. T., Yan, X. X., Lv, B. J., Nie, S. F., Wang, J., Iwakura, Y., Xiao, H., Yuan, J., Jevallée, H., Wei, F., Shi, G. P., and Cheng, X. Interleukin-17A contributes to myocardial ischemia/reperfusion injury by regulating cardiomyocyte apoptosis and neutrophil infiltration. *J. Am. Coll. Cardiol.*, **59**, 420-442 (2012).
445. Washino, T., Moroda, M., Iwakura, Y., and Aosai, F. Toxoplasma gondii infection inhibits Th17-mediated spontaneous development of arthritis in IL-1 receptor antagonist-deficient mice. *Infect. Immun.*, **80**, 1437-1444 (2012).
446. Kojima, M., Ashino, T., Yoshida, T., Iwakura, Y., and Degawa, M. Involvement of interleukin-1 in lead nitrate-induced hypercholesterolemia in mice. *Biol. Pharm. Bull.*, **35**, 246-250 (2012).
447. Arima, Y., Harada, M., Kamimura, D., Park, J.-H., Kawano, F., Yull, F. E., Kawamoto, T., Iwakura, Y., Betz, U. A. K., Márquez, G., Blackwell, T. S., Ohira, Y., Hirano, T., and Murakami, M. Regional neural activation defines a gateway for autoreactive T cells to cross the blood-brain barrier. *Cell*, **148**, 447-457 (2012).
448. Shime, H., Matsumoto, M., Oshiumi, H., Tanaka, S., Nakane, A., Iwakura, Y., Tahara, H., Inoue, N., and Seya, T. Toll-like receptor 3

- signaling converts tumor-supporting myeloid cells to tumoricidal effectors. *Proc. Natl. Acad. Sci. USA*, **109**, 2066-2071 (2012).
449. Yoshida, T., Shiroshima, T., Lee, S.-J., Yasumura, M., Uemura, T., Chen, X., Iwakura, Y., and Mishina, M. Interleukin-1 receptor accessory protein organizes neuronal synaptogenesis as a cell adhesion molecule. *J. Neurosci.*, **32**, 2588-2600 (2012).
 450. Usui, F., Kimura, H., Ohshiro, T., Tatsumi, K., Kawashima, A., Nishiyama, A., Iwakura, Y., Ishibashi, S., and Takahashi, M. Interleukin-17 deficiency reduced vascular inflammation and development of atherosclerosis in western diet-induced ApoE-deficient mice. *Biochem. Biophys. Res. Commun.*, **420**, 72-77 (2012).
 451. Sato, A., Ohtaki, H., Tsumuraya, T., Song, D., Ohara, K., Asano, M., Iwakura, Y., Atsumi, T., and Shioda, S. Interleukin-1 participates in the classical and alternative activation of microglia/macrophages after spinal cord injury. *J. Neuroinflammation*, **9**, 65. doi: 10.1186/1742-2094-9-65. (2012).
 452. Quan, S. H., Zhang, Y. L., Han, D. H., Iwakura, Y., and Rhee, C. S. Contribution of interleukin 17A to the development and regulation of allergic inflammation in a murine allergic rhinitis model. *Ann. Allergy Asthma Immunol.*, **108**, 342-350 (2012).
 453. Lee, J., Nakagiri, T., Oto, T., Harada, M., Morii, E., Shintani, Y., Inoue, M., Iwakura, Y., Miyoshi, S., Okumura, M., Hirano, T., and Murakami, M. IL-6 amplifier, NF- κ B-triggered positive feedback for IL-6 signaling, in grafts is involved in allogeneic rejection responses. *J. Immunol.*, **189**, 1928-1936 (2012).
 454. Yamaguchi, K., Shiozaki, K., Moriya, S., Koseki, K., Wada, T., Tateno, H., Sato, I., Asano, M., Iwakura, Y., and Miyagi, T. Reduced susceptibility to colitis-associated colon carcinogenesis in mice lacking plasma membrane-associated sialidase. *PLoS One*, **7**, e41132 (2012).
 455. Diao, H., Liu, X., Wu, Z., Kang, L., Cui, G., Morimoto, J., Denhardt, D. T., Rittling, S., Iwakura, Y., Uede, T., and Li, L.

- Osteopontin-regulates interleukin-17 production in hepatitis. *Cytokine*, **60**, 129-137 (2012).
456. Okamoto, Y., Hasegawa, M., Matsushita, T., Hamaguchi, Y., Huu, D. L., Iwakura, Y., Fujimoto, M., and Takehara, K. Potential roles of interleukin 17A in the development of skin fibrosis. *Arthritis Rheum.*, **64**, 3726-3735 (2012).
 457. Nakatsuka, A., Wada, J., Iseda, I., Teshigawara, S., Higashio, K., Murakami, K., Kanzaki, M., Inoue, K., Terami, T., Katayama, A., Hida, K., Eguchi, J., Horiguchi, C. S., Ogawa, D., Matsuki, Y., Hiramatsu, R., Yagita, H., Kakuta, S., Iwakura, Y., and Makino, H. Vaspin is an adipokine ameliorating ER stress in obesity as a ligand for cell surface GRP78/MTJ-1 complex. *Diabetes*, **61**, 2823-2832 (2012).
 458. Vladimer, G. I., Weng, D., Paquette, S. W., Vanaja, S. K., Rathinam, V. A., Aune, M. H., Conlon, J. E., Burbage, J. J., Proulx, M. K., Liu, Q., Reed, G., Mecsas, J. C., Iwakura, Y., Bertin, J., Goguen, J. D., Fitzgerald, K. A., and Lien, E. The NLRP12 inflammasome recognizes *Yersinia pestis*. *Immunity*, **37**, 96-107 (2012).
 459. Yamanaka, D., Tada, R., Adachi, Y., Ishibashi, K. I., Motoi, M., Iwakura, Y., and Ohno, N. *Agaricus brasiliensis*-derived β -glucans exert immunoenhancing effects via a dectin-1-dependent pathway. *Int. Immunopharmacol.*, **14**, 311-319 (2012).
 460. Suzukawa, M., Morita, H., Nambu, A., Arae, K., Shimura, E., Shibui, A., Yamaguchi, S., Suzukawa, K., Nakanishi, W., Oboki, K., Kajiwara, N., Ohno, T., Ishii, A., Körner, H., Cua, D. J., Suto, H., Yoshimoto, T., Iwakura, Y., Yamasoba, T., Ohta, K., Sudo, K., Saito, H., Okumura, K., Broide, D., Matsumoto, K., and Nakae, S. Epithelial cell-derived IL-25, but not Th17 cell-derived IL-17 or IL-17F, is crucial for murine asthma. *J. Immunol.*, **189**, 3641-3652 (2012).
 461. Botelho, F. M., Nikota, J. K., Bauer, C. M., Morissette, M. C., Iwakura, Y., Kolbeck, R., Finch, D., Humbles, A. A., and Stampfli, M.

- R. Cigarette smoke-induced accumulation of lung dendritic cells is interleukin-1 α -dependent in mice. *Respir. Res.*, **13**, 81 (2012).
462. Ramadas, R. A., Ewart, S. L., Iwakura, Y., Medoff, B. D., and Levine, A. M. IL-36 α exerts pro-inflammatory effects in the lungs of mice. *PLoS One*, **7**, e45784 (2012).
463. Sadik, C. D., Kim, N. D., Iwakura, Y., Luster, A. D. Neutrophils orchestrate their own recruitment in murine arthritis through C5aR and Fc γ R signaling. *Proc. Natl. Acad. Sci. USA*, **109**, E3177-E3185 (2012).
464. Segond von Banchet, G., Boettger, M. K., König, C., Iwakura, Y., Bräuer, R., and Schaible, H. G. Neuronal IL-17 receptor upregulates TRPV4 but not TRPV1 receptors in DRG neurons and mediates mechanical but not thermal hyperalgesia. *Mol. Cell Neurosci.*, **52C**, 152-160 (2012).
465. Jhingan, A., Mar, K. B., Kumasaka, D. K., Knoblaugh, S. E., Ngo, L. Y., Segal, B. H., Iwakura, Y., Lowell, C. A., Hamerman, J. A., Lin, X., and Hohl, T. M. Tracing conidial fate and measuring host cell antifungal activity using a reporter of microbial viability in the lung. *Cell Rep.*, **2**, 1762-1773 (2012).
466. Cho, J. S., Guo, Y., Ramos, R. I., Hebroni, F., Plaisier, S. B., Xuan, C., Granick, J. L., Matsushima, H., Takashima, A., Iwakura, Y., Cheung, A. L., Cheng, G., Lee, D. J., Simon, S. I., and Miller, L. S. Neutrophil-derived IL-1 β is sufficient for abscess formation in immunity against *Staphylococcus aureus* in mice. *PLoS Pathog.*, **8**, e1003047 (2012).
467. Shepardson, K. M., Ngo, L. Y., Aimaniananda, V., Latge, J. P., Barker, B. M., Blosser, S. J., Iwakura, Y., Hohl, T. M., and Cramer, R. A. Hypoxia enhances innate immune activation to *Aspergillus fumigatus* through cell wall modulation. *Microbes Infect.*, **15**, 259-269 (2012).
468. Blatner, N. R., Mulcahy, M. F., Dennis, K. L., Scholtens, D., Bentrem, D. J., Phillips, J. D., Ham, S., Sandall, B. P., Khan, M. W.,

- Mahvi, D. M., Halverson, A. L., Stryker, S. J., Boller, A.-M., Singal, A., Sneed, R. K., Sarraj, B., Ansari, M. J., Oft, M., Iwakura, Y., Zhou, L., Bonertz, A., Beckhove, P., Benoist, C., Gounari, F., and Khazaie, K. Expression of ROR γ t marks a pathogenic T-regulatory cell subset in human colon cancer. *Sci. Transl. Med.*, **4**, 164ra159 (2012).
469. Tang, C., and Iwakura, Y. IL-23 in colitis: Targeting the progenitors. *Immunity*, **37**, 957-959 (2012).
470. Kleinschnitz, C., Kraft, P., Dreykluft, A., Hagedorn, I., Göbel, K., Schuhmann, M. K., Langhauser, F., Helluy, X., Schwarz, T., Bittner, S., Mayer, C. T., Brede, M., Varallyay, C., Pham, M., Bendszus, M., Jakob, P., Magnus, T., Meuth, S. G., Iwakura, Y., Zerneck, A., Sparwasser, T., Nieswandt, B., Stoll, G., and Wiendl, H. Regulatory T cells are strong promoters of acute ischemia stroke in mice by inducing dysfunction of the cerebral microvasculature. *Blood*, **121**, 679-691 (2013).
471. Erdmann, H., Roßnagel, C., Böhme, J., Iwakura, Y., Jacobs, T., Schaible, U. E., and Hölscher, C. IL-17A promotes macrophage effector mechanisms against *Trypanosoma cruzi* by trapping parasites in the endolysosomal compartment. *Immunobiology*, **218**, 910-923 (2013).
472. Silverpil, E., Wright, A. K., Hansson, M., Jirholt, P., Henningsson, L., Smith, M. E., Gordon, S. B., Iwakura, Y., Gjerdtsson, I., Glader, P., and Lindén, A. Negative feedback on IL-23 exerted by IL-17A during pulmonary inflammation. *Innate Immun.*, **19**, 479-492 (2013).
473. Nakatsuka, A., Wada, J., Iseda, I., Teshigawara, S., Higashio, K., Murakami, K., Kanzaki, M., Inoue, K., Terami, T., Katayama, A., Hida, K., Eguchi, J., Ogawa, D., Matsuki, Y., Hiramatsu, R., Yagita, H., Kakuta, S., Iwakura, Y., and Makino, H. Vaspin inhibits apoptosis of endothelial cells as a ligand for cell-surface GRP78/VDAC complex. *Circ. Res.*, **112**, 771-780 (2013).
474. Kurimoto, E., Miyahara, N., Kanehiro, A., Waseda, K., Taniguchi, A., Ikeda, G., Koga, H., Nishimori, H., Tanimoto, Y., Kataoka, M.,

- Iwakura, Y., Gelfand, E. W., and Tanimoto, M. IL-17A is essential to the development of elastase-induced pulmonary inflammation and emphysema in mice. *Respir. Res.*, **14**, 5. doi: 10.1186/1465-9921-14-5 (2013).
475. Lemaître, P. H., Vokaer, B., Charbonnier, L. M., Iwakura, Y., Field, K. A., Estenne, M., Goldman, M., Leo, O., Rummelink, M., and Le Moine, A. Cyclosporine A drives a Th17- and Th2-mediated posttransplant obliterative airway disease. *Am. J. Transplant.*, **13**, 611-620 (2013).
476. Kon, S., Minegishi, N., Tanabe, K., Watanabe, T., Funaki, T., Wong, W. F., Sakamoto, D., Higuchi, Y., Kiyonari, H., Asano, K., Iwakura, Y., Fukumoto, M., Osato, M., Sanada, M., Ogawa, S., Nakamura, T., and Satake, M. Smap 1 deficiency perturbs receptor trafficking and predisposes mice to myelodysplasia. *J. Clin. Invest.*, **123**, 1123-1137 (2013).
477. Deroide, N., Li, X., Lerouet, D., Van Vré, E., Baker, L., Harrison, J., Poittevin, M., Masters, L., Nih, L., Margail, I., Iwakura, Y., Ryffel, B., Pocard, M., Tedgui, A., Kubis, N., and Mallat, Z. MFGE8 inhibits inflammasome-induced IL-1 β production and limits postischemic cerebral injury. *J. Clin. Invest.*, **123**, 1176-1181 (2013).
478. Shepardson, K. M., Ngo, L. Y., Aimanian, V., Latge, J.-P., Barker, B. M., Blosser, S. J., Iwakura, Y., Hohl, T. M., and Cramer, R. A. Hypoxia enhances innate immune activation to *Aspergillus fumigatus* through cell wall modulation. *Microbe. Infect.*, **15**, 259-269 (2013).
479. Sugita, S., Kawazoe, Y., Imai, A., Usui, Y., Iwakura, Y., Isoda, K., Ito, M., and Mochizuki, M. Mature dendritic cell suppression by IL-1 receptor antagonist on retinal pigment epithelium cells. *Invest. Ophthalmol. Vis. Sci.*, **54**, 3240-3249 (2013).
480. Miyake, Y., Toyonaga, K., Mori, D., Kakuta, S., Hoshino, Y., Oyamada, A., Yamada, H., Ono, K. I., Suyama, M., Iwakura, Y., Yoshikai, Y., and Yamasaki, S. C-type lectin MCL is an

- FcR γ -coupled receptor that mediates the adjuvant activity of mycobacterial cord factor. *Immunity*, **38**, 1050-1062 (2013).
481. Katayama, M., Ohmura, K., Yukawa, N., Terao, C., Hashimoto, M., Yoshifuji, H., Kawabata, D., Fujii, T., Iwakura, Y., and Mimori, T. Neutrophils are essential as a source of IL-17 in the effector phase of arthritis. *PLoS One*, **8**, e62231 (2013).
Correction. *PLoS One*, **8**, doi: 10.1371/annotation/5fedb3bf-c9c2-4862-9ad5-23c8ae484ad5 (2013).
 482. Kuriya, G., Uchida, T., Akazawa, S., Kobayashi, M., Nakamura, K., Satoh, T., Horie, I., Kawasaki, E., Yamasaki, H., Yu, L., Iwakura, Y., Sasaki, H., Nagayama, Y., Kawakami, A., and Abiru, N. Double deficiency in IL-17 and IFN- γ signaling significantly suppresses the development of diabetes in the NOD mouse. *Diabetologia*, **56**, 1773-1780 (2013).
 483. Lukens, J. R., Vogel, P., Johnson, G. R., Kelliher, M. A., Iwakura, Y., Lamkanfi, M., and Kanneganti, T. D. RIP1-driven autoinflammation targets IL-1 α independently of inflammasomes and RIP3. *Nature*, **498**, 224-227 (2013).
 484. Yoshimoto, S., Loo, T. M., Atarashi, K., Kanda, H., Sato, S., Oyadomari, S., Iwakura, Y., Oshima, K., Morita, H., Hattori, M., Honda, K., Ishikawa, Y., Hara, E., and Ohtani, N. Obesity-induced gut microbial metabolite promotes liver cancer through senescence secretome. *Nature*, **499**, 97-101 (2013).
 485. Ishida, H., Imai, T., Suzue, K., Hirai, M., Taniguchi, T., Yoshimura, A., Iwakura, Y., Okada, H., Suzuki, T., Shimokawa, C., and Hise, H. IL-23 protection against *Plasmodium berghei* infection in mice is partially dependent on IL-17 from macrophages. *Eur. J. Immunol.*, **43**, 2696-2706 (2013).
 486. Funaki, T., Kon, S., Tanabe, K., Natsume, W., Sato, S., Shimizu, T., Yoshida, N., Wong, W. F., Ogura, A., Ogawa, T., Inoue, K., Ogonuki, N., Miki, H., Mochida, K., Endoh, K., Yomogida, K., Fukumoto, M., Horai, R., Iwakura, Y., Ito, C., Toshimori, K., Watanabe, T., and

- Satake, M. The Arf GAP SMAP2 is necessary for organized vesicle budding from the trans-Golgi-network and subsequent acrosome formation in spermatogenesis. *Mol. Biol. Cell*, **24**, 2633-2644 (2013).
487. Al Shamsi, M., Shahin, A., Iwakura, Y., Lukic, M. L., and Mensah-Brown, E. P. Pam3CSK₄ enhanced beta cell loss and diabetogenesis: The roles of IFN-gamma and IL-17. *Clin. Immunol.*, **149**, 86-96 (2013).
488. Shigematsu, Y., Niwa, T., Rehnberg, E., Toyoda, T., Yoshida, S., Mori, A., Wakabayashi, M., Iwakura, Y., Ichinose, M., Kim, Y. J., and Ushijima, T. Interleukin-1 β induced by Helicobacter pylori infection enhances mouse gastric carcinogenesis. *Cancer Lett.*, **340**, 141-147 (2013).
489. Lemaître, P. H., Vokaer, B., Charbonnier, L. M., Iwakura, Y., Estenne, M., Goldman, M., Leo, O., Remmelink, M., and Le Moine, A. IL-17A mediates early post-transplant lesions after heterotopic trachea allotransplantation in mice. *PLoS One*, **8**, e70236 (2013).
490. Soeno, Y., Fujita, K., Kudo, T., Asagiri, M., Kakuta, S., Taya, Y., Shimazu, Y., Sato, K., Tanaka-Fujita, R., Kubo, S., Iwakura, Y., Nakamura, Y., Mori, S., and Aoba, T. Generation of a mouse model with down-regulated U50 snoRNA (SNORD50) expression and its organ-specific phenotypic modulation. *PLoS One*, **26**, 8: e72105 (2013).
491. Freigang, S., Ampenberger, F., Weiss, A., Kanneganti, T. D., Iwakura, Y., Hersberger, M., and Kopf, M. Fatty acid-induced mitochondrial uncoupling elicits inflammasome-independent IL-1 α and sterile vascular inflammation in atherosclerosis. *Nat. Immunol.*, **14**, 1045-1053 (2013).
492. Chang, Y., Al-Alwan, L., Audusseau, S., Chouiali, F., Carlevaro-Fita, J., Iwakura, Y., Bagloli, C. J., Eidelman, D. H., and Hamid, Q. Genetic deletion of IL-17A reduces cigarette smoke-induced inflammation and alveolar type II cell apoptosis. *Am. J. Physiol. Lung Cell Mol. Physiol.*, **306**, L132-143 (2013).

493. Schmitt, E. G., Haribhai, D., Jeschke, J. C., Co, D. O., Ziegelbauer, J., Yan, K., Iwakura, Y., Mishra, M. K., Simpson, P., Salzman, N. H., and Williams, C. B. Chronic follicular bronchiolitis requires antigen-specific regulatory T cell control to prevent fatal disease progression. *J. Immunol.*, **191**, 5460-5476 (2013).
494. Do, J. S., Visperas, A., Freeman, M. L., Iwakura, Y., Oukka, M., and Min, B. Colitogenic effector T cells: roles of gut-homing integrin, gut antigen specificity and $\gamma\delta$ T cells. *Immunol. Cell Biol.*, **92**, 90-98 (2013).
495. Miyasaka, T., Akahori, Y., Toyama, M., Miyamura, N., Ishii, K., Saijo, S., Iwakura, Y., Kinjo, Y., Miyazaki, Y., Oishi, K., and Kawakami, K. Dectin-2-dependent NKT cell activation and serotype-specific antibody production in mice immunized with pneumococcal polysaccharide vaccine. *PLoS One*, **8**, e78611 (2013).
496. Murayama, M. A., Kakuta, S., Maruhashi, T., Shimizu, K., Seno, A., Kubo, S., Sato, N., Saijo, S., Hattori, M., and Iwakura, Y. CTRP3 plays an important role in the development of collagen-induced arthritis in mice. *Biochem. Biophys. Res. Commun.*, **443**, 42-48 (2013).
497. Kim, H. Y., Lee, H. J., Chang, Y. J., Pichavant, M., Shore, S. A., Fitzgerald, K. A., Iwakura, Y., Israel, E., Bolger, K., Faul, J., Dekruyff, R. H., and Umetsu, D. T. Interleukin-17-producing innate lymphoid cells and the NLRP3 inflammasome facilitate obesity-associated airway hyperreactivity. *Nat. Med.*, **20**, 54-61 (2013).
498. Takuya Tada, Motohiko Kadoki, Liu Yang, Kenzo Tokunaga, and Yoichiro Iwakura. Transgenic expression of the human LEDGF/p75 gene relieves the species barrier against HIV-1 infection in mouse cells. *Front. Microbiol.*, **4**, 377. doi: 10.3389/fmicb.2013.00377 (2013).
499. Ono, Y., Ogihara, Y., Saijo, S., Iwakura, Y., and Inoue, M. Evaluation of Kampo medicines used to treat rheumatoid arthritis in collagen-induced arthritic and pX transgenic mice. *Mod. Rheumatol.*, **13**, 50-56 (2013).

500. Tanno, D., Akahori, Y., Toyama, M., Sato, K., Kudo, D., Abe, Y., Miyasaka, T., Yamamoto, H., Ishii, K., Kanno, E., Maruyama, R., Kushimoto, S., Iwakura, Y., and Kawakami, K. Involvement of Gr-1^{dull+} cells in the production of TNF- α and IL-17 and exacerbated systemic inflammatory response caused by lipopolysaccharide. *Inflammation*, **37**, 186-195 (2014).
501. Kwon, S. J., Lee, G. T., Lee, J. H., Iwakura, Y., Kim, W. J., and Kim, I. Y. Mechanism of pro-tumorigenic effect of BMP-6: Neovascularization involving tumor-associated macrophages and IL-1 α . *Prostate*, **74**, 121-133 (2014).
502. Kagoya, Y., Yoshimi, A., Kataoka, K., Nakagawa, M., Kumano, K., Arai, S., Kobayashi, H., Saito, T., Iwakura, Y., and Kurokawa, M. Positive feedback between NF- κ B and TNF- α promotes leukemia-initiating cell capacity. *J. Clin. Invest.*, **124**, 528-542 (2014).
503. Lukens, J. R., Gross, J. M., Calabrese, C., Iwakura, Y., Lamkanfi, M., Vogel, P., and Kanneganti, T. D. Critical role for inflammasome-independent IL-1 β production in osteomyelitis. *Proc. Natl. Acad. Sci. U. S. A.*, **111**, 1066-1071 (2014).
504. Cassel, S. L., Janczy, J. R., Bing, X., Wilson, S. P., Olivier, A. K., Otero, J. E., Iwakura, Y., Shayakhmetov, D. M., Bassuk, A. G., Abu-Amer, Y., Brogden, K. A., Burns, T. L., Sutterwala, F. S., and Ferguson, P. J. Inflammasome-independent IL-1 β mediates autoinflammatory diseases in Pstpip2-deficient mice. *Proc. Natl. Acad. Sci. U. S. A.*, **111**, 1072-1077 (2014).
505. Song, X., Gao, H., Lin, Y., Yao, Y., Zhu S, Wang J, Liu Y, Yao X, Meng G, Shen N, Shi Y, Iwakura Y, and Qian Y. Alterations in the microbiota drive interleukin-17C production from intestinal epithelial cells to promote tumorigenesis. *Immunity*, **40**, 140-152 (2014).
506. Ikeda, S., Saijo, S., Murayama, M. A., Shimizu, K., Akitsu, A., and Iwakura, Y. Excess IL-1 signaling enhances the development of

- Th17 cells by downregulating TGF- β -induced Foxp3 expression. *J. Immunol.*, **192**, 1449-1458 (2014).
507. Parsons, M. W., Li, L., Wallace, A. M., Lee, M. J., Katz, H. R., Fernandez, J. M., Saijo, S., Iwakura, Y., Austen, K. F., Kanaoka, Y., and Barrett, N. A. Dectin-2 regulates the effector phase of house dust mite-elicited pulmonary inflammation independently from its role in sensitization. *J. Immunol.*, **192**, 1361-1371 (2014).
 508. Yamamoto, H., Nakamura, Y., Sato, K., Takahashi, Y., Nomura, T., Miyasaka, T., Ishii, K., Hara, H., Yamamoto, N., Kanno, E., Iwakura, Y., and Kawakami, K. Defect of CARD9 leads to impaired acculation of IFN- γ -producing memory-phenotype T cells in lungs and increased susceptibility to pulmonary infection with *Cryptococcus neoformans*. *Infect. Immun.*, 2014 Jan 27. [Epub ahead of print]
 509. Nakajima, S., Kitoh, A., Egawa, G., Natsuaki, Y., Nakamizo, S., Sagita, Moniaga, C., Otsuka, A., Honda, T., Hanakawa, S., Amano, W., Iwakura, Y., Nakae, S., Kubo, M., Miyachi, Y., and Kabashima, K. IL-17A as an inducer for Th2 immune responses in murine atopic dermatitis models. *J. Invest. Dermatol.*, **134**, 2122-2130 (2014).
 510. Lai, C. Y., Yamazaki, S., Okabe, M., Suzuki, S., Maeyama, Y., Iimura, Y., Onodera, M., Kakuta, S., Iwakura, Y., Nojima, M., Otsu, M., and Nakauchi, H. Stage-specific roles for Cxcr4 signaling in murine hematopoietic stem/progenitor cells in the process of bone marrow repopulation. *Stem Cells*, **32**, 1929-1942 (2014).
 511. Kobiyama, K., Aoshi, T., Narita, H., Kuroda, E., Hayashi, M., Tetsutani, K., Koyama, S., Mochizuki, S., Sakurai, K., Katakai, Y., Yasutomi, Y., Saijo, S., Iwakura, Y., Akira, S., Coban, C., and Ishii, K. J. Nonagonistic Dectin-1 ligand transforms GpG into a multifunctional GpG into a multitask nanoparticulate TLR9 agonist. *Proc. Natl. Acad. Sci. U. S. A.*, **111**, 3086-3091 (2014).
 512. Huang, G. J., Edwards, A., Tsai, C. Y., Lee, Y. S., Peng, L., Era, T., Hirabayashi, Y., Tsai, C. Y., Nishikawa, S., Iwakura, Y., Chen, S. J., and Flint, J. Ectopic cerebellar cell migration causes maldevelopment

- of purkinje cells and abnormal motor behavior in CXCR4 null mice. *PLoS One*, **9**, e86471 (2014).
513. Norimoto, A., Hirose, K., Iwata, A., Tamachi, T., Yokota, M., Takahashi, K., Saijo, S., Iwakura, Y., and Nakajima, H. Dectin-2 promotes house dust mite-induced Th2 and Th17 cell differentiation and allergic airway inflammation in mice. *Am. J. Respir. Cell Mol. Biol.*, **51**, 201-209 (2014).
 514. Jie, Z., Liang, Y., Hou, L., Dong, C., Iwakura, Y., Soong, L., Cong, Y., and Sun, J. Intrahepatic innate lymphoid cells secrete IL-17A and IL-17F that are crucial for T cell priming in viral infection. *J. Immunol.*, **192**, 3289-3300 (2014).
 515. Benahmed, F., Chyou, S., Dasoveanu, D., Chen, J., Kumar, V., Iwakura, Y., and Lu, T. T. Multiple CD11c⁺ cells collaboratively express IL-1 β to modulate stromal vascular endothelial growth factor and lymph node vascular-stromal growth. *J. Immunol.*, **192**, 4153-4163 (2014).
 516. Inoue, Y., Shirasuna, K., Kimura, H., Usui, F., Kawashima, A., Karasawa, T., Tago, K., Dezaki, K., Nishimura, S., Sagara, J., Noda, T., Iwakura, Y., Tsutsui, H., Taniguchi, S., Yanagisawa, K., Yada, T., Yasuda, Y., and Takahashi, M. NLRP3 regulates neutrophil functions and contributes to hepatic ischemia-reperfusion injury independently of inflammasomes. *J. Immunol.*, **192**, 4342-4351 (2014).
 517. Oshio, T., Kawashima, R., Kawamura, Y. I., Hagiwara, T., Mizutani, N., Okada, T., Otsubo, T., Inagaki-Ohara, K., Matsukawa, A., Haga, T., Kakuta, S., Iwakura, Y., Hosokawa, S., and Dohi, T. Chemokine receptor CCR8 is required for lipopolysaccharide-triggered cytokine production in mouse peritoneal macrophages. *PLoS One*, **9**, e94445 (2014).
 518. Akitsu, A., Kakuta, S., Saijo, S., and Iwakura, Y. Rag2-deficient IL-1 receptor antagonist-deficient mice are a novel colitis model in which innate lymphoid cell-derived IL-17 is involved

- in the pathogenesis. *Exp. Anim.*, **63**, 235-246 (2014). Best publication award from the Japanese Association for Laboratory Animal Science.
519. Akiho, H., Tokita, Y., Nakamura, K., Satoh, K., Nishiyama, M., Tsuchiya, N., Tsuchiya, K., Ohbuchi, K., Iwakura, Y., Ihara, E., Takayanagi, R., and Yamamoto, M. Involvement of IL-17A-induced hypercontractility of intestinal smooth muscle cells in persistent gut moter dysfunction. *PLoS One*, **9**, e92960 (2014).
 520. Yasukawa, S., Miyazaki, Y., Yoshii, C., Nakaya, M., Ozaki, N., Toda, S., Kuroda, E., Ishibashi, K., Yasuda, T., Natsuaki, Y., Mi-Ichi, F., Iizasa, E., Nakahara, T., Yamazaki, M., Kabashima, K., Iwakura, Y., Takai, T., Saito, T., Kurosaki, T., Malissen, B., Ohno, N., Furue, M., Yoshida, H., and Hara, H. An ITAM-Syk-CARD9 signaling axis triggers contact hypersensitivity by stimulating IL-1 production in dendritic cells. *Nat. Commun.*, **5**, 3755 (2014).
 521. Sichelstiel, A., Yadava, K., Trompette, A., Salami, O., Iwakura, Y., Nicod, L. P., and Marsland, B. J. Targeting IL-1 β and IL-17A driven inflammation during influenza-induced exacerbations of chronic lung inflammation. *PLoS One*, **9**, e98440 (2014).
 522. Wu, L., Ong, S., Talor, M. V., Barin, J. G., Baldeviano, G. C, Kass D. A., Bedja, D., Zhang, H., Sheikhm, A., Margolick, J. B., Iwakura, Y., Rose, N. R., and Ciháková, D. Cardiac fibroblasts mediate IL-17A-driven inflammatory dilated cardiomyopathy. *J. Exp. Med.*, **211**, 1449-1464 (2014).
 523. Reber, L. L., Marichal, T., Sokolove, J., Starkl, P., Gaudenzio, N., Iwakura, Y., Karasuyama, H., Schwartz, L. B., Robinson, W. H., Tsai, M., and Galli, S. J. Mast cell-derived IL-1 β contributes to uric acid crystal-induced acute arthritis in mice. *Arthritis Rheumatol.*, **66**, 2881-2891 (2014).
 524. Nikota, J. K., Shen, P., Morissette, M. C., Fernandes, K., Roos, A., Chu, D. K., Barra, N. G., Iwakura, Y., Kolbeck, R., Humbles, A. A., and Stampfli, M. R. Cigarette smoke primes the pulmonary environment to IL-1 α /CXCR-2-dependent nontypeable haemophilus

- influenzae-exacerbated neutrophilia in mice. *J. Immunol.*, **193**, 3134-3145 (2014).
525. Yamanaka, K., Nakanishim, T., Saito, H., Maruyama, J., Isoda, K., Yokochi, A., Imanaka-Yoshida, K., Tsuda, K., Kakeda, M., Okamoto, R., Fujita, S., Iwakura, Y., Suzuki, N., Ito, M., Maruyama, K., Gabazza, E. C., Yoshida, T., Shimaoka, M., and Mizutani, H. Persistent release of IL-1s from skin is associated with systemic cardio-vascular disease. Emaciation and systemic amyloidosis: the potential of anti-IL-1 therapy for systemic inflammatory disease. *PLoS One*, **9**, e104479 (2014).
526. Ito, K., Yamazaki, S., Yamamoto, R., Tajima, Y., Yanagida, A., Kobayashi, T., Kato-Itoh, M., Kakuta, S., Iwakura, Y., Nakauchi, H., and Kamiya, A. Gene targeting study reveals unexpected expression of brain expressed X-linked 2 in endocrine and tissue stem/progenitor cells in mice. *J. Biol. Chem.*, **289**, 29892-29911 (2014).
527. Chiba, S., Ikushima, H., Ueki, H., Yanai, H., Kimura, Y., Hangai, S., Nishio, J., Negishi, H., Tamura, T., Saijo, S., Iwakura, Y., and Taniguchi T. Recognition of tumor cells by Dectin-1 orchestrates innate immune cells for anti-tumor responses. *Elife*, **3**, e04177 (2014, Aug. 22).
528. Shimura, E., Shibui, A., Narushima, S., Nambu, A., Yamaguchi, S., Akitsu, A., Leonard, W. J., Iwakura, Y., Matsumoto, K., Suto, H., Okumura, K., Sudo, K., and Nakae, S. Potential role of myeloid cell/eosinophil-derived IL-17 in LPS-induced endotoxin shock. *Biochem. Biophys. Res. Commun.*, **453**, 1-6 (2014, Oct. 10).
529. Isoda, K., Akita, K., Isobe, S., Niida, T., Adachi, T., Iwakura, Y., and Daida, H. Interleukin-1 receptor antagonist originating from bone marrow-derived cells and non-bone marrow-derived cells helps to suppress arterial inflammation and reduce neointimal formation after injury. *J. Atheroscler. Thromb.*, **21**, 1208-1218 (2014).
530. Natsuaki, Y., Egawa, G., Nakamizo, S., Ono, S., Hanakawa, S., Okada, T., Kusuba, N., Otsuka, A., Kitoh, A., Honda, T., Nakajima, S.,

- Tsuchiya, S., Sugimoto, Y., Ishii, K. J., Tsutsui, H., Yagita, H., Iwakura, Y., Kubo, M., Ng, L. G., Hashimoto, T., Fuentes, J., Guttman-Yassky, E., Miyachi, Y., and Kabashima, K. Perivascular leukocyte clusters are essential for efficient activation of effector T cells in the skin. *Nat. Immunol.*, **15**, 1064-1009 (2014, Nov. 15).
531. Ali, A., Zhu, X., Kwiecinski, J., Gjertsson, I., Lindholm, C., Iwakura, Y., Wang, X., Lycke, N., Josefsson, E., Pullerits, R., and Jin, T. Antibiotic-killed *Staphylococcus aureus* induces destructive arthritis in mice. *Arthritis Rheumatol.*, **67**, 107-116 (2015, Jan.).
532. Janczy, J. R., Ciraci, C., Haasken, S., Iwakura, Y., Olivier, A. K., Cassel, S. L., and Sutterwala, F. S. Immune complexes inhibit IL-1 secretion and inflammasome activation. *J. Immunol.*, **193**, 5190-5198 (2014, Nov. 15).
533. Yabe, R., Shimizu, K., Shimizu, S., Azechi, S., Choi, B. I., Sudo, K., Kubo, S., Nakae, S., Ishigame, H., Kakuta, S., and Iwakura, Y. CCR8 regulates contact hypersensitivity by restricting cutaneous dendritic cell migration to the draining lymph nodes. *Int. Immunol.*, **27**, 169-181 (2015, Apr.). Featured article of the month.
534. Bourigault, M. L., Segueni, N., Rose, S., Court, N., Vacher, R., Vasseur, V., Erard, F., Le Bert, M., Garcia, I., Iwakura, Y., Jacobs, M., Ryffel, B., and Quesniaux, V. F. Relative contribution of IL-1 α , IL-1 β , and TNF to the host response to *Mycobacterium tuberculosis* and attenuated *M. bovis* BCG. *Immun. Inflamm. Dis.*, **1**, 47-62 (2013, Oct. 1).
535. Iizuka, M., Tsuboi, H., Matsuo, N., Asashima, H., Hirota, T., Kondo, Y., Iwakura, Y., Takahashi, S., Matsumoto, I., and Sumida, T. A crucial role of ROR γ t in the development of spontaneous sialadenitis-like Sjogren's syndrome. *J. Immunol.*, **194**, 56-67 (2015, Jan. 1).
536. Nakamura, Y., Sato, K., Yamamoto, H., Matsumura, K., Matsumoto, I., Nomura, T., Miyasaka, T., Ishii, K., Kanno, E., Tachi, M., Yamasaki, S., Saijo, S., Iwakura, Y., and Kawakami, K.

Dectin-2 deficiency promotes Th2 response and mucin production in the lungs after pulmonary infection with *Cryptococcus neoformans*. *Infect. Immun.*, **83**, 671-681 (2015, Feb.).

537. Yabe, R., Iwakura, Y., and Saijo, S. C-type lectin receptors in host defense against microbial pathogens. In “*Glycoscience: Biology and Medicine*”, (ed. N. Taniguchi, T. Endo, E. G. Hart, P. H. Seeberger, C.-H. Wong) (ISBN: 978-4-431-54840-9; DOI 10.1007/978-4-431-54841-6_180), Springer Japan, p. 1319-1329 (2015).
538. Mizushima, Y., Shirasuna, K., Usui, F., Karasawa, T., Kawashima, A., Kimura, H., Kobayashi, M., Komada, T., Inoue, Y., Mato, N., Yamasawa, H., Latz, E., Iwakura, Y., Kasahara, T., Bando, M., Sugiyama, Y., and Takahashi, M. NLRP3 deficiency exacerbates hyperoxia-induced lethality through Stat3 signaling independently of interleukin-1 β . *J. Biol. Chem.*, **290**, 5065-5077 (2015).
539. Jee, J., Bonnegarde-Bernard, A., Duverger, A., Iwakura, Y., Cormet-Boyaka, E., Martin, T. L., Steiner, H. E., Bachman, R. C., and Boyaka, P. N. Neutrophils negatively regulate induction of mucosal IgA responses after sublingual immunization. *Mucosal Immunol.*, **8**, 735-745 (2015).
540. Oyoshi, M. K., Beaupré, J., Venturelli, N., Lewis, C. N., Iwakura, Y., and Geha, R. S. Filaggrin deficiency promotes the dissemination of cutaneously inoculated vaccinia virus. *J. Allergy Clin. Immunol.*, **135**, 1511-1518 (2015).
541. Shimizu, K., Nakajima, A., Sudo, K., Liu, Y., Mizoroki, A., Ikarashi, T., Horai, R., Kakuta, S., Watanabe, T., and Iwakura, Y. Interleukin-1 receptor type 2 suppresses collagen-induced arthritis by inhibiting interleukin-1 signal on macrophages. *J. Immunol.*, **194**, 3156-3168 (2015).
542. Uryu, H., Hashimoto, D., Kato, K., Hayase, E., Matsuoka, S., Ogasawara, R., Takahashi, S., Maeda, Y., Iwasaki, H., Miyamoto, T., Saijo, S., Iwakura, Y., Hill, G. R., Akashi, K., and Teshima, T.

- α -Mannan induces Th17-mediated pulmonary graft-versus-host disease in mice. *Blood*, **125**, 3014-3023 (2015).
543. Giannou, A. D., Marazioti, A., Spella, M., Kanellakis, N. I., Apostolopoulou, H., Psallidas, I., Prijovich, Z. M., Vreka, M., Zazara, D. E., Lilis, I., Papaleonidopoulos, V., Kairi, C. A., Patmanidi, A. L., Giopanou, I., Spiropoulou, N., Harokopos, V., Aidinis, V., Spyrtatos, D., Teliousi, S., Papadaki, H., Taraviras, S., Snyder, L. A., Eickelberg, O., Kardamakis, D., Iwakura, Y., Feyerabend, T. B., Rodewald, H. R., Kalomenidis, I., Blackwell, T. S., Agalioti, T., and Stathopoulos, G. T. Mast cells mediate malignant pleural effusion formation. *J. Clin. Invest.*, **125**, 2317-2334 (2015).
 544. Maruhashi, T., Kaifu, T., Yabe, R., Seno, A., Chung, S. H., Fujikado, N., and Iwakura, Y. DCIR maintains bone homeostasis by regulating IFN- γ production in T cells. *J. Immunol.*, **194**, 5681-5691 (2015).
 545. Oberhuber, R., Heinbokel, T., Cetina Biefer, H. R., Boenisch, O., Hock, K., Bronson, R. T., Wilhelm, M. J., Iwakura, Y., Edtinger, K., Uehara, H., Quante, M., Voskuil, F., Krenzien, F., Slegtenhorst, B., Abdi, R., Pratschke, J., Elkhail, A., and Tullius, S. G. CD11c⁺ DCs accelerate the rejection of older cardiac transplants via IL-17A. *Circulation*, **132**, 122-131 (2015).
 546. Wakabayashi, C., Numakawa, T., Odaka, H., Ooshima, Y., Kiyama, Y., Manabe, T., Kunugi, H., and Iwakura, Y. IL-1 receptor-antagonist (IL-1Ra) knockout mice show anxiety-like behavior by aging. *Neurosci. Lett.*, **599**, 20-25 (2015).
 547. Akitsu, A., Ishigame, H., Kakuta, S., Chung, S. H., Ikeda, S., Shimizu, K., Kubo, S., Liu, Y., Umemura, M., Matsuzaki, G., Yoshikai, Y., Saijo, S., and Iwakura, Y. IL-1 receptor antagonist-deficient mice develop autoimmune arthritis due to intrinsic activation of IL-17-producing CCR2(+)V γ 6(+) $\gamma\delta$ T cells. *Nat. Commun.*, **6**, 7464. (2015).

548. Nakamura, T., Maeda, S., Horiguchi, K., Maehara, T., Aritake, K., Choi, B. I., Iwakura, Y., Urade, Y., and Murata, T. PGD2 deficiency exacerbates food antigen-induced mast cell hyperplasia. *Nat. Commun.*, **6**, 7514 (2015).
549. Seno, A., Maruhashi, T., Kaifu, T., Yabe, R., Fujikado, N., Ma, G., Ikarashi, T., Kakuta, S., and Iwakura, Y. Exacerbation of experimental autoimmune encephalomyelitis in mice deficient for DCIR, an inhibitory C-type lectin receptor. *Exp. Anim.*, **64**, 109-119 (2015).
550. Drgonova, J., Walther, D., Wang, K. J., Hartstein, G. L., Lochte, B., Troncoso, J., Uetani, N., Iwakura, Y., and Uhl, G. R. Mouse model for PTPRD associations with WED/RLS and addiction: reduced expansion alters locomotion, sleep behaviors and cocaine-conditioned place preference. *Mol. Med.*, 2015, July 14. Doi:10.2119/molmed.2015.00017. [Epub ahead of print].
551. Tang, C., Kamiya, T., Liu, Y., Kadoki, M., Kakuta, S., Oshima, K., Hattori, M., Takeshita, K., Kanai, T., Saijo, S., and Iwakura, Y. Inhibition of Dectin-1 signaling ameliorates colitis by inducing *Lactobacillus*-mediated regulatory T cell expansion in the intestine. *Cell Host & Microbe*, **18**, 183-197 (2015, Aug. 12).
552. Hamour, S., Gan, P. Y., Pepper, R., Florez Barros, F., Wang, H. H., O'Sullivan, K., Iwakura, Y., Cook, T., Pusey, C., Holdsworth, S., and Salama, A. Local IL-17 production exerts a protective role in murine experimental glomerulonephritis. *PLoS One*, **10**, e0136238 (2015).
553. Cai, S., Batra, S., Langohr, I., Iwakura, Y., and Jeyaseelan, S. IFN- γ induction by neutrophil-derived IL-17A homodimer augments pulmonary antibacterial defense. *Mucosal Immunol.*, **9**, 716-729 (2016).
554. Zhou, X., Loomis-King, H., Gurczynski, S. J., Wilke, C. A., Konopka, K. E., Ptaschinski, C., Coomes, S. M., Iwakura, Y., van Dyk, L. F., Lukacs, N. W., and Moore, B. B. Bone marrow transplantation alters lung antigen-presenting cells to promote Th17 reponse and the

development of pneumonitis and fibrosis following gammaherpesvirus infection. *Mucosal Immunol.*, **9**, 610-620 (2016).

555. Murayama, M. A., Kakuta, S., Inoue, A., Umeda, N., Yonezawa, T., Maruhashi, T., Tateishi, K., Ishigame, I., Yabe, R., Ikeda, S., Seno, A., Chi, H. H., Hashiguchi, Y., Kurata, R., Tada, T., Kubo, S., Sato, N., Liu, Y., Hattori, M., Saijo, S., Matsushita, M., Fujita, T., Sumida, T., and Yoichiro Iwakura. CTRP6 is an endogenous complement regulator that can effectively treat induced arthritis. *Nat. Commun.*, **6**, 8483. (2015).
556. Maruhashi, T., Kaifu, T., and Iwakura, Y. DCIR in the “osteo-immune” system. *Oncotarget*, **6**, 34051-34052 (2015). Editorial.
557. Tokieda, S., Komori, M., Ishiguro, T., Iwakura, Y., Takahara, K., and Inaba, K. Dendritic cell immunoreceptor 1 alters neutrophil response in the development of experimental colitis. *BMC Immunol.*, **16**, 64. doi: 10.1186/s12865-015-0129-5 (2015).
558. Zhuang, Z. N., Ju, H. Q., Aguilar, M., Gocho, T., Li, H., Iida, T., Lee, H., Fan, X., Zhou, H., Ling, J., Li, Z., Fu, J., Wu, M., Li, M., Melisi, D., Iwakura, Y., Xu, K., Fleming, J. B., and Chiao, P. J. IL-1 receptor antagonist inhibits pancreatic cancer growth by abrogating NF- κ B activation. *Clin. Cancer Res.*, **22**, 1432-1444 (2016).
559. Higashino-Kameda, M., Yabe-Wada, T., Matsuba, S., Takeda, K., Anzawa, K., Mochizuki, T., Makimura, K., Saijo, S., Iwakura, Y., Toga, H., and Nakamura, A. A critical role of Dectin-1 in hypersensitivity pneumonitis. *Inflamm. Res.*, **65**, 235-244 (2015).
560. Di Paolo, N. C., Shafiani, S., Day, T., Papayannoupoulou, T., Russell, D. W., Iwakura, Y., Sherman, D., Urdahl, K., and Shayakhmetov, D. M. Interdependence between interleukin-1 and tumor necrosis factor regulates TNF-dependent control of *Mycobacterium tuberculosis* infection. *Immunity*, **43**, 1125-36 (2015).