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Research Interest

Development of Vaccine strategies that can generate high quality memory CD8⁺ T cells

Positions and Employment

2008-present Assistant Professor, Dept. of Immunology, Kindai University Faculty of Medicine, Osaka, JP
2006-2008 Postdoctoral Fellow, Trudeau Institute, David Woodland Lab, NY, USA
2004-2006 Research Resident (Japan Foundation for AIDS Prevention), Dept. of Bioregulation, Mie University School of Medicine, Mie, JP

Education

1999-2004 Ph.D program, Dept. of Bioregulation, Mie University School of Medicine, Mie, JP
1993-1999 School of Veterinary Medicine, Rakuno Gakuen University, Hokkaido, JP

Award

2016 Best Presentation Award, Annual Meeting of the Japanese Society for Immunology
2012 Tadimitsu Kisimoto International Travel Award
2006 Postdoctoral Fellowship, Uehara Memorial Foundation
1999-2004 Scholarship for Graduate Students, Japan Student Services Organization
1993-1999 Scholarship for University Students, Japan Student Services Organization

Grants

2017 Research Grant, The Japan Foundation for Pediatric Research
2017 Research Grant, Life Science Foundation of Japan
2016-2018 Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology-Japan
2016 Research Grant, The Uehara Memorial Foundation
2015 Research Grant, Mochida Memorial Foundation for Medical and Pharmaceutical Research
2014 Research Grant, Kato Memorial Bioscience Foundation
2014 Research Grant, The Waksman Foundation of Japan Inc.
2013 Research Grant, Kanae Foundation for the Promotion of Medical Science
2012-2013 Grant-in-Aid for Young Scientists (A), Ministry of Education, Culture, Sports, Science and Technology-Japan
2012 Research Grant, Uehara Memorial Foundation
2012-2013 Research Grant, Daiich-Sankyo Foundation of Life Science
2011-2012 Research Grant, Takeda Science Foundation
2010 Research Grant, Astellas Foundation for Research on Metabolic Disorders
2010 Research Grant, The Ichiro Kanehara Foundation for the Promotion of Medical Science and Medical Care
2010-2011 Grant-in-Aid for Young Scientists (B), Ministry of Education, Culture, Sports, Science and Technology-Japan

Professional Activities

2013-present Associate Faculty Member, Faculty of 1000
2012-present Organizer, International Immunological Memory and Vaccine Forum
2010-present Chief Organizer, Young Investigators group on memory T cells

Peer-reviewed publications

1. Kimura MY, Hayashizaki K, Tokoyoda K, **Takamura S**, Motohashi S, Nakayama T.
Crucial role for CD69 in allergic inflammatory response: CD69-MyI9 system in the pathogenesis of airway inflammation.
Immunol. Rev. 2017 In press.
2. **Takamura S***. (*Corresponding author)
Regional immune responses in the lung after respiratory virus infections.
Viral Immunol. 2017 In press.
3. **Takamura S***. (*Corresponding author)
Persistence in temporary lung niches: a survival strategy of lung-resident memory CD8⁺ T cells.
Viral Immunol. 2017 In press.
4. **Takamura S***, Yagi H, Hakata Y, Motozono C, McMaster SR, Kato M, Masumoto T, Fujisawa M, Chikaishi T, Komeda J, Itoh J, Umemura M, Kyusai A, Tomura M, Nakayama T, Woodland DL, Kohlmeier JE, Miyazawa M. (*Corresponding author)
Specific niches for lung-resident memory CD8⁺ T cells at the site of tissue regeneration enable CD69-independent maintenance.
J. Exp. Med. 2016 Dec 12;213(13):3057-73.
5. Kato M, Tsuji-Kawahara S, Kawasaki Y, Kinoshita Y, Chikaishi T, **Takamura S**, Fujisawa M, Kawada A, Miyazawa M.
Class switch recombination and somatic hypermutation of virus-neutralizing antibodies are not essential for the control of Friend retrovirus infection.
J. Virol. 2015 Jan 15;89(2):1468-73.
6. Tsuji-Kawahara S, **Takamura S**, Miyazawa M.
Reply to "CD8⁺ T cells are essential for controlling acute Friend virus infection in B6 mice".
J. Virol. 2014, May; 88(9):5202-3.
7. **Takamura S***, Kajiwara E, Tsuhi-Kawahara S, Masumoto T, Fujisawa M, Kato M, Chikaishi T, Kawasaki Y, Kinoshita S, Itoi M, Sakaguchi N, Masaaki M*. (*Corresponding authors)
Infection of adult thymus with murine retrovirus induces virus-specific central tolerance that prevents functional memory CD8⁺ T cell differentiation.
PLoS Pathog. 2014, Mar 20;10(3):e1003937.
8. Sato H, Jing C, Isshiki M, Matsuo K, Kidokoro M, **Takamura S**, Zhang X, Ohashi T, and Shida H.
Immunogenicity and safety of vaccinia virus LC16m8Δ vector that express SIV Gag under strong or moderate promoter in the regimen of recombinant BCG prime followed by recombinant vaccinia virus boost.
Vaccine. 2013, Aug 2;31(35):3549-57.
9. Miyazawa M, **Takamura S**, Tsuji-Kawahara S, Kajiwara E, Chikaishi T, and Kato M.
A hole in the T-cell repertoire induced after retroviral infection of immunocompetent adult mice.
Retrovirology. 2011, 8 (Suppl. 2):O30.
10. Kurachi M, Kurachi J, Suenaga F, Tsukui T, Abe J, Ueha S, Tomura M, Sugihara K, **Takamura S**, Kakimi K, Matsushima K.
Chemokine receptor CXCR3 facilitates CD8⁺ T cell differentiation into short-lived effector cells leading to memory degeneration.
J. Exp. Med. 2011, Aug 1;208(8):1605-20.
11. Ogawa T, Tsuji-Kawahara S, Yuasa T, Kinoshita S, Chikaishi T, **Takamura S**, Matsumura H, Seya T, Saga T, Miyazawa M.
Natural Killer cells recognize Friend retrovirus-induced erythroid progenitor cells through NKG2D-RAE-1 interactions in vivo.
J. Virol. 2011, June;85(11):5423-35.
12. **Takamura S***, Miyazawa M*. (*Corresponding authors)
Response to comment on "Premature terminal exhaustion of Friend virus-specific effector CD8⁺ T cells by rapid induction of multiple inhibitory receptors".
J. Immunol. 2010, Aug 1;185(3):1349-50.
13. **Takamura S***, Roberts AD, Jelley-Gibbs DM, Wittmer S, Kohlmeier JE, Woodland DL*. (*Corresponding authors)
Route of priming influences the ability of respiratory virus-specific memory CD8⁺ T cells to be activated by residual antigen.

- J. Exp. Med.** 2010, June 7;207(6):1153-60.
14. Tsuji-Kawahara S, Chikaishi T, Takeda E, Kato M, Kinoshita S, Kajiwar E, **Takamura S**, Miyazawa M. Persistence of viremia and production of neutralizing antibodies differentially regulated by polymorphic APOBEC3 and BAFF-R loci in Friend virus-infected mice.
J. Virol. 2010, June;84(12):6082-95.
 15. **Takamura S***, Tsuji-Kawahara S, Yagita H, Akiba H, Sakamoto M, Chikaishi T, Kato M, Miyazawa M*. (*Corresponding authors)
Premature terminal exhaustion of Friend virus-specific effector CD8⁺ T cells by rapid induction of multiple inhibitory receptors.
J. Immunol. 2010, May 1;184(9):4696-707.
 16. Miyazawa M, Tsuji-Kawahara S, Chikaishi T, Kato M, **Takamura S**.
Mouse APOBEC3 affects the production of virus-neutralizing antibodies by restricting early retroviral replication, not by altering the B-cell repertoire.
Retrovirology. 2009, 6(suppl 2):O9.
 17. Hikono H, Kohlmeier JE, **Takamura S**, Wittmer ST, Roberts AD, Woodland DL.
Activation phenotype, rather than central- or effector-memory phenotype, predicts the recall efficacy of memory CD8⁺ T cells.
J. Exp. Med. 2007, Jul 9;204(7):1625-36.
 18. **Takamura S**, Matsuo K, Takebe Y, Yasutomi Y.
Ag85B of mycobacteria elicits effective CTL responses through activation of robust Th1 immunity as a novel adjuvant in DNA vaccine.
J. Immunol. 2005, Aug 15;175(4):2541-7.
 19. **Takamura S**, Niikura M, Li TC, Takeda N, Kusagawa S, Takebe Y, Miyamura T, Yasutomi Y.
DNA vaccine-encapsulated virus-like particles derived from an orally transmissible virus stimulate mucosal and systemic immune responses by oral administration.
Gene Ther. 2004, Apr;11(7):628-35.
 20. Nishikubo K, Murata Y, Tamaki S, Sugama K, Imanaka-Yoshida K, Yuda N, Kai M, **Takamura S**, Sebald W, Adachi Y, Yasutomi Y.
A single administration of interleukin-4 antagonistic mutant DNA inhibits allergic airway inflammation in a mouse model of asthma.
Gene Ther. 2003, Dec;10(26):2119-25.
 21. Uno-Furuta S, Matsuo K, Tamaki S, **Takamura S**, Kamei A, Kuromatsu I, Kaito M, Matsuura Y, Miyamura T, Adachi Y, Yasutomi Y.
Immunization with recombinant Calmette-Guerin bacillus (BCG)-hepatitis C virus (HCV) elicits HCV-specific cytotoxic T lymphocytes in mice.
Vaccine. 2003 Jul 4;21(23):3149-56.
 22. Niikura M, **Takamura S**, Kim G, Kawai S, Saijo M, Morikawa S, Kurane I, Li TC, Takeda N, Yasutomi Y.
Chimeric recombinant hepatitis E virus-like particles as an oral vaccine vehicle presenting foreign epitopes.
Virology. 2002, Feb 15;293(2):273-80.
 23. Hagiwara K, Okamoto M, Kamitani W, **Takamura S**, Taniyama H, Tsunoda N, Tanaka H, Iwai H, Ikuta K.
Nosological study of Borna disease virus infection in race horses.
Vet. Microbiol. 2002, Feb 4;84(4):367-74.
 24. Kuromatsu I, Matsuo K, **Takamura S**, Kim G, Takebe Y, Kawamura J, Yasutomi Y.
Induction of effective antitumor immune responses in a mouse bladder tumor model by using DNA of an alpha antigen from mycobacteria.
Cancer Gene Ther. 2001, Jul;8(7):483-90.
 25. Mori K, Yasutomi Y, Ohgimoto S, Nakasone T, **Takamura S**, Shioda T, Nagai Y.
Quintuple deglycosylation mutant of simian immunodeficiency virus SIVmac239 in rhesus macaques: robust primary replication, tightly contained chronic infection, and elicitation of potent immunity against the parental wild-type strain.
J. Virol. 2001, May;75(9):4023-8.
 26. Uno-Furuta S, Tamaki S, Takebe Y, **Takamura S**, Kamei A, Kim G, Kuromatsu I, Kaito M, Adachi Y, Yasutomi Y.
Induction of virus-specific cytotoxic T lymphocytes by in vivo electric administration of peptides.
Vaccine. 2001, Feb 28;19(15-16):2190-6.

27. Kamei A, Tamaki S, Taniyama H, **Takamura S**, Nishimura Y, Kagawa Y, Uno-Furuta S, Kaito M, Kim G, Toda M, Matsuura Y, Miyamura T, Adachi Y, Yasutomi Y.
Induction of hepatitis C virus-specific cytotoxic T lymphocytes in mice by an intrahepatic inoculation with an expression plasmid.
Virology. 2000, Jul 20;273(1):120-6.
28. Hagiwara K, Kamitani W, **Takamura S**, Taniyama H, Nakaya T, Tanaka H, Kirisawa R, Iwai H, Ikuta K.
Detection of Borna disease virus in a pregnant mare and her fetus/
Vet. Microbiol. 2000, Mar 15;72(3-4):207-16.

Invited Lectures

1. Block Symposium, Infection and T cell Immunity, KAI international Meeting. (Seoul, Korea 2017)
2. Symposium, Session of CTL, Annual Meeting of the Japan Cytometry Society. (Kobe, JP 2017)
3. The 2nd Symposium of International Immunological Memory and Vaccine Forum. (La Jolla, USA 2014)
4. The 1st Symposium of International Immunological Memory and Vaccine Forum. (Tokyo, JP 2013)
5. Seminar, Trudeau Institute. (NY, USA 2012)
6. Symposium, Session of Microbiology, Annual Meeting of the Japanese Society of Veterinary Medicine. (Tokyo, JP 2011)
7. Seminar, Research Institute for Microbial Disease, Osaka University. (Osaka, JP 2010)
8. The 5th Chiba University Global COE Symposium, "Development and Maintenance of Immune Memory" (Tokyo, JP 2010)
9. Seminar, Institute for Genome Research, The University of Tokushima. (Tokushima, JP 2010)
10. Global COE Seminar, Chiba University School of Medicine. (Chiba, JP 2009)
11. Seminar, Kinki University Faculty of Medicine (Osaka, JP 2008)