

庄野雄介 (SHONO Yusuke)

[抄録および論文査読]

学会抄録査読 American Society of Hematology (ASH); Category 702 - Experimental Transplantation: Immune Function, GVHD and Graft-versus-Tumor Effects, 2014

査読担当雑誌 Blood, Bone Marrow Transplantation, British Journal of Haematology, Clinical Transplantation, Clinical Infectious Disease, EbioMedicine, Journal of Hematology and Oncology, Frontiers in Immunology

[主要特許]

1. 出願番号: 特願 008-316828 / 出願人: 小野薬品工業株式会社 / 出願日平成 20 年 12 月 12 日 / 発明者: 松島綱治, 上羽悟史, 庄野雄介 / 発明の名称: 移植片対腫瘍効果を保存した免疫学的再構築促進剤または感染症予防剤
2. 米国特許: INTESTINAL MICROBIOTA AND GVHD; PCT/US2015/062734, Marcel van den Brink, Robert Jenq, Eric G Pamer, Yung Taur, **Yusuke Shono**

[招待講演] (学会一般口演発表は国内外多数のため割愛)

1. 庄野雄介: 「骨髄 GVHD」 第 16 回血液科学セミナー 東京都 2010.10.23-10.24
2. 庄野雄介, 今村雅寛: 「Bone Marrow Graft-versus-Host Disease: destruction of hematopoietic niche」 第 15 回九州骨髄移植カンファレンス 福岡市 2010.11.6
3. 上羽悟史, 庄野雄介, Wang Yong, 松島綱治: 「骨髄 GVHD: 骨芽細胞性造血ニッチの破壊」 第 7 回麒麟塾 東京都 2011.6.4
4. 庄野雄介, Marcel van den Brink: 「Gut microbiota and graft-versus-host disease – effects of broad-spectrum antibiotic use on microbiota injury after allogeneic hematopoietic stem cell transplantation」 第 78 回日本血液学術集会 横浜市 2016.10.13-10.15
5. 庄野雄介: 「Gut microbiota injury in allogeneic hematopoietic stem cell transplantation」 The 23rd Annual Congress of APBMT 台北市 2018.11.2-11.4
6. 庄野雄介: 「Microbiota in allogeneic hematopoietic stem cell transplantation」 China Cancer Immunotherapy and Targeting Therapy Conference & Gaobo Medical Annual Meeting 北京市 2019.4.21-4.23

[総説(和文)]

1. 庄野雄介, 笠井正晴: 成人急性リンパ性白血病の造血幹細胞移植療法. 新しい診断と治療の ABC(36) 急性白血病 最新医学社 157-168, 2006
2. 庄野雄介: 腸内細菌叢と移植片対宿主病-ヒト患者およびマウスにおける同種造血幹細胞移植後の広域スペクトラム抗菌薬使用に伴う移植片対宿主病関連死亡率の増加 臨床血液 58 巻 7 号 835-842, 2017

[原著(和文)]

1. 庄野雄介, 上羽悟史, 今村雅寛, 松島綱治: GVHD の標的としての造血ニッチ. 血液・腫瘍科, 61(6): 737-745, 2010
2. 今村雅寛, 庄野雄介, 上羽悟史, 松島綱治: 特発性造血障害に関する調査研究 骨髄に対する移植片対宿主反応: ドナーCD4 陽性 T 細胞による造血ニッチ障害. 特発性造血障害に関する調査研究 平成 21 年度 総括・分担研究報告書, 47-48, 2010
3. 今村雅寛, 庄野雄介: 造血ニッチと GVHD. 血液フロンティア, 21(7): 100-103, 2011
4. 今村雅寛, 庄野雄介, 松野吉宏: 特発性造血障害に関する調査研究 ヒト骨髄を標的とする移植片対宿主病に関する研究. 特発性造血障害に関する調査研究 平成 22 年度 総括・分担研究報告書, 57-58, 2011
5. 今村雅寛, 庄野雄介: GVHD による造血障害の機序. 月刊臨床免疫・アレルギー科 56(3): 326-330, 2011
6. 庄野雄介, 上羽悟史, 今村雅寛, 松島綱治: 骨髄 GVHD による造血ニッチの障害. Annual Review 血液 2012, 31-40, 2012
7. 上羽悟史, 松島綱治, 庄野雄介: 骨髄 GVHD: 骨髄造血ニッチの破壊と免疫系の再構築障害. 医学のあゆみ, 242(9): 671-676, 2012

[原著(英文)]

Peer-Reviewed Journal and Publications

1. Docampo MD, Burgos da Silva M, Lazrak A, Nichols KB, Lieberman SR, Slingerland AE, Armijo GK, Shono Y, Nguyen CL, Monette S, Dwomoh E, Lee N, Geary CD, Perobelli SM, Smith M, Markey KA, Vardhana SA, Kousa AI, Zamir E, Greenfield I, Sun JC, Cross JR, Peled JU, Jenq RR, Stein-Thoeringer C, van den Brink MRM. Alloreactive T cells deficient of the short-chain fatty acid receptor GPR109A induce less graft-versus-host disease. *Blood*, 2021, 139:2392-2405.
2. Peled JU, Gomes ALC, Devlin SM, Littmann ER, Taur Y, Sung AD, Weber D, Hashimoto D, Slingerland AE, Slingerland JB, Maloy M, Clurman AG, Stein-Thoeringer CK, Markey KA, Docampo MD, Burgos da Silva M, Khan N, Gessner A, Messina JA, Romero K, Lew MV, Bush A, Bohannon L, Brereton DG, Fontana E, Amoretti LA, Wright RJ, Armijo GK, Shono Y, Sanchez-Escamilla M, Castillo Flores N, Alarcon Tomas A, Lin RJ, Yáñez San Segundo L, Shah GL, Cho C, Scordo M, Politikos I, Hayasaka K, Hasegawa Y, Gyurkocza B, Ponce DM, Barker JN, Perales MA, Giralt SA, Jenq RR, Teshima T, Chao NJ, Holler E, Xavier JB, Pamer EG, van den Brink MRM. Microbiota as Predictor of Mortality in Allogeneic Hematopoietic-Cell Transplantation. *N Engl J Med*, 2020, 382:822-834.
3. Matsuzawa-Ishimoto Y, Hine A, Shono Y, Rudensky E, Lazrak A, Yeung F, Neil JA, Yao X, Chen YH, Heaney T, Schuster SL, Zwack EE, Axelrad JE, Hudesman D, Tsai JJ, Nichols K, Dewan MZ, Cammer M, Beal A, Hoffman S, Geddes B, Bertin J, Liu C, Torres VJ, Loke P, van den Brink MRM, Cadwell K. An intestinal organoid-based platform that

recreates susceptibility to T-cell-mediated tissue injury. *Blood*, 2020, 135, 2388-2401.

4. Stein-Thoeringer CK, Nichols KB, Lazrak A, Docampo MD, Slingerland AE, Slingerland JB, Clurman AG, Armijo G, Gomes ALC, **Shono Y**, Staffas A, Burgos da Silva M, Devlin SM, Markey KA, Bajic D, Pinedo R, Tsakmaklis A, Littmann ER, Pastore A, Taur Y, Monette S, Arcila ME, Pickard AJ, Maloy M, Wright RJ, Amoretti LA, Fontana E, Pham D, Jamal MA, Weber D, Sung AD, Hashimoto D, Scheid C8, Xavier JB, Messina JA, Romero K, Lew M, Bush A, Bohannon L, Hayasaka K, Hasegawa Y, Vehreschild MJGT, Cross JR, Ponce DM, Perales MA, Giralt SA, Jenq RR, Teshima T1, Holler E, Chao NJ, Pamer EG, Peled JU, van den Brink MRM. Lactose Drives Enterococcus Expansion to Promote Graft-versus-Host Disease. *Science*, 2019, 366:1143–1149.

5. Tsai JJ, Velardi E, **Shono Y**, Argyropoulos KV, Holland AM, Smith OM, Yim NL, Rao UK, Kreines FM, Lieberman SR, Young LF, Lazrak A, Youssef S, Fu YY, Liu C, Lezcano C, Murphy GF, Na IK, Jenq RR, Hanash AM, Dudakov JA, van den Brink MRM. Nrf2 regulates CD4⁺ T cell-induced acute graft-versus-host disease in mice. *Blood*, 2018, 132:2763-2774.

6. Staffas A, Burgos da Silva M, Slingerland AE, Lazrak A, Bare CJ, Holman CD, Docampo MD, **Shono Y**, Durham B, Pickard AJ, Cross JR, Stein-Thoeringer C, Velardi E, Tsai JJ, Jahn L, Jay H, Lieberman S, Smith OM, Pamer EG, Peled JU, Cohen DE, Jenq RR, van den Brink MRM. Nutritional Support from the Intestinal Microbiota Improves Hematopoietic Reconstitution after Bone Marrow Transplantation in Mice. *Cell Host Microbe*, 2018, 23:447-457.

7. **Shono Y**, van den Brink MRM. Gut microbiota injury in allogeneic haematopoietic stem cell transplantation. *Nat Rev Cancer*, 2018, 18:283-295.

8. Velardi E, Tsai JJ, Radtke S, Cooper K, Argyropoulos KV, Jae-Hung S, Young LF, Lazrak A, Smith OM, Lieberman S, Kreines F, **Shono Y**, Wertheimer T, Jenq RR, Hanash AM, Narayan P, Lei Z, Moore MA, Kiem HP, van den Brink MRM, Dudakov JA. Suppression of luteinizing hormone enhances HSC recovery after hematopoietic injury. *Nat Med*, 2018, 24:239-246.

9. Wertheimer T, Velardi E, Tsai J, Cooper K, Xiao S, Kloss CC, Ottmüller KJ, Mokhtari Z, Brede C, deRoos P, Kinsella S, Palikuqi B, Ginsberg M, Young LF, Kreines F, Lieberman SR, Lazrak A, Guo P, Malard F, Smith OM, **Shono Y**, Jenq RR, Hanash AM, Nolan DJ, Butler JM, Beilhack A, Manley NR, Rafii S, Dudakov JA, van den Brink MRM. Production of BMP4 by endothelial cells is crucial for endogenous thymic regeneration. *Sci Immunol*, 2018, 12: eaal2736.

10. Kosugi-Kanaya M, Ueha S, Abe J, Shichino S, Shand FHW, Morikawa T, Kurachi M, **Shono Y**, Sudo N, Yamashita A, Suenaga F, Yokoyama A, Yong W, Imamura M, Teshima T, Matsushima K. Long-Lasting Graft-Derived Donor T Cells Contribute to the Pathogenesis of Chronic Graft-versus-Host Disease in Mice. *Front. Immunol*, 2017, 8:1842.

11. **Shono Y**, van den Brink MRM. Empiric antibiotic use in allogeneic hematopoietic cell transplantation: should we avoid anaerobe coverage? *Blood Adv*, 2017, 1:2325-2328.
12. Matsuzawa-Ishimoto Y*, **Shono Y***, Gomez LE, Hubbard-Lucey VM, Cammer M, Neil J, Dewan MZ, Lieberman SR, Lazrak A, Marinis JM, Beal A, Harris PA, Bertin J, Liu C, Ding Y, van den Brink MR**, Cadwell K**. Autophagy protein ATG16L1 prevents necroptosis in the intestinal epithelium. *J Exp Med*, 2017, 214:3687-3705. ***shared first authorship**, **shared last authorship.
13. Ueha S, Yokochi S, Ishiwata Y, Kosugi-Kanaya M, **Shono Y**, Shibayama S, Ito S, Matsushima K. Combination of anti-CD4 antibody treatment and donor lymphocyte infusion ameliorates graft-versus-host disease while preserving graft-versus-tumor effects in murine allogeneic hematopoietic stem cell transplantation. *Cancer Sci*, 2017, 108:1967-1973.
14. Fischer JC, Bscheider M, Eisenkolb G, Lin CC, Wintges A, Otten V, Lindemans CA, Heidegger S, Rudelius M, Monette S, Porosnicu Rodriguez KA, Calafiore M, Liebermann S, Liu C, Lienenklaus S, Weiss S, Kalinke U, Ruland J, Peschel C, **Shono Y**, Docampo M, Velardi E, Jenq RR, Hanash AM, Dudakov JA, Haas T, van den Brink MRM*, Poeck H*. RIG-I/MAVS and STING signaling promote gut integrity during irradiation- and immune-mediated tissue injury. *Sci Trans Med*, 2017, 9: eaag2513. *shared last authorship.
15. Peled JU, Devlin SM, Staffas A, Lumish M, Khanin R, Littmann ER, Ling L, Kosuri S, Maloy M, Slingerland JB, Ahr KF, Porosnicu Rodriguez KA, **Shono Y**, Slingerland AE, Docampo MD, Sung AD, Weber D, Alousi AM, Gyurkocza B, Ponce DM, Barker JN, Perales MA, Giralt SA, Taur Y, Pamer EG, Jenq RR*, van den Brink MR*. Intestinal Microbiota and Relapse After Hematopoietic-Cell Transplantation. *J Clin Oncol*, 2017, 35:1650-1659. *shared last authorship.
16. **Shono Y**, Docampo MD, Peled JU, Perobelli SM, Velardi E, Tsai JJ, Slingerland AE, Smith OM, Young LF, Gupta J, Lieberman SR, Jay HV, Ahr KF, Rodriguez KAP, Xu K, Calafiore M, Poeck H, Caballero S, Devlin SM, Rapaport F, Dudakov JA, Hanash AM, Gyurkocza B, Murphy GF, Gomes CG, Liu C, Moss EL, Falconer SB, Bhatt AS, Taur Y, Pamer EG, van den Brink MR*, Jenq RR*. Increased GVHD-related mortality with broad-spectrum antibiotic use after allogeneic hematopoietic stem cell transplantation in mice and human patients. *Sci Transl Med*, 2016, 8:339ra71. *shared last authorship. (Featured in *Science* 2016, 352:949-950, *Healio*, *Medical Daily*, *TheScientist*, and *EurekAlert*).
17. Mathewson N, Jenq R, Mathew A, Koenigsnecht M, Hanash A, Toubai T, Oravec-Wilson K, Wu SH, Sun Y, Rossi C, Fujiwara H, Byun J, **Shono Y**, Lindemans C, Calafiore M, Schmidt T, Honda K, Young V, Pennathur S, van den Brink MR, Reddy P. Gut microbiome derived metabolites modulate intestinal epithelial cell damage and mitigate Graft-versus-Host Disease. *Nat Immunol*, 2016, 17:505-513.
18. **Shono Y**, Tuckett AZ, Liou HC, Doubrovina E, Derenzini E, Ouk S, Tsai JJ, Smith OM, Levy ER, Kreines FM, Ziegler CGK, Scallion MI, Doubrovin M, Heller G, Younes A,

O'Reilly RJ, van den Brink MR*, Zakrzewski JL*. Characterization of a c-Rel inhibitor that mediates anticancer properties in hematologic malignancies by blocking NF-kB-controlled oxidative stress responses. *Cancer Res*, 2016, 76:377-389. *shared last authorship.

19. Jenq RR, Taur Y, Devlin SM, Ponce DM, Goldberg JD, Ahr KF, Littmann ER, Ling L6, Gobourne AC, Miller LC, Docampo MD, Peled JU, Arpaia N, Cross JR, Peets TK, Lumish MA, **Shono Y**, Dudakov JA, Poeck H, Hanash AM, Barker JN, Perales MA, Giralt SA, Pamer EG, van den Brink MR. Intestinal *Blautia* is associated with reduced death from graft-versus-host disease. *Biol Blood Marrow Transplant* 2015, 21:1373-1383.

20. **Shono Y**, Docampo MD, Peled JU, Perobelli SM, Jenq RR. Intestinal microbiota-related effects on graft-versus-host disease. *Int J Hematol* 2015, 101:428-437.

21. Suenaga F, Ueha S, Abe J, Kosugi-Kanaya M, Wang Y, Yokoyama A, **Shono Y**, Shand FH, Morishita Y, Kunisawa J, Sato S, Kiyono H, Matsushima K. Loss of Lymph Node Fibroblastic Reticular Cells and High Endothelial Cells Is Associated with Humoral Immunodeficiency in Mouse Graft-versus-Host Disease. *J Immunol* 2015, 194: 398-406.

22. Hubbard-Lucey VM*, **Shono Y***, Maurer K, West ML, Singer NV, Ziegler CGK, Lezcano C, Motta ACF, Schmid K, Levi SM, Murphy GF, Liu C, Winkler JD, Amaravadi RK, Rogler G, Dickinson AM, Holler E, van den Brink MR**, Cadwell K**. Autophagy gene *Atg16L1* prevents lethal T cell alloreactivity mediated by dendritic cells. *Immunity* 2014, 41:579-591. ***shared first authorship**, **shared last authorship.

23. Tuckett AZ, Thornton RH, **Shono Y**, Smith OM, Levy E, Kreines F, van den Brink MR, Zakrzewski JL: Image-guided intrathymic injection of multipotent stem cells supports life-long T cell immunity and facilitates targeted immunotherapy. *Blood* 2014, 123:2797-2805.

24. **Shono Y**, Tuckett AZ, Ouk S, Liou HC, Altan-Bonnet G, Tsai JJ, Oyler JE, Smith OM, West ML, Singer NV, Doubrovina E, Pankov D, Undhad CV, Murphy GF, Lezcano C, Liu C, O'Reilly RJ, van den Brink MR*, Zakrzewski JL*. A small molecule c-Rel inhibitor reduces alloactivation of T-cells without compromising anti-tumor activity. *Cancer Discov* 2014, 4:578-591. *shared last authorship.

25. **Shono Y***, Shiratori S*, Kosugi-Kanaya M, Ueha S, Sugita J, Shigematsu A, Kondo T, Hashimoto D, Fujimoto K, Endo T, Nishio M, Hashino S, Matsuno Y, Matsushima K, Tanaka J, Imamura M, Teshima T. Bone Marrow graft-versus-host disease: evidence of its clinical impact on disrupted hematopoiesis after allogeneic hematopoietic stem cell transplantation *Biol Blood Marrow Transplant* 2014, 20:495-500. ***shared first authorship** (Featured in *Global Medical Discovery* 2014).

26. Tsai JJ, Dudakov JA, Takahashi K, Shieh JH, Velardi E, Holland AM, Singer NV, West ML, Smith OM, Young LF, **Shono Y**, Ghosh A, Hanash AM, Tran HT, Moore MA, van den Brink MR. *Nrf2* regulates haematopoietic stem cell function. *Nat Cell Biol* 2013, 15:309-316.

27. Toubai T, Tanaka J, Paczesny S, **Shono Y**, Reddy P, Imamura M. Role of cytokines in the pathophysiology of acute graft-versus-host disease (GVHD) – Are serum/plasma cytokines potential biomarkers for diagnosis of acute GVHD following allogeneic hematopoietic cell transplantation (allo-HCT)? *Curr Stem Cell Res Ther* 2012, 7:229-239.
28. Sugita J, Matsushita T, Kashiwazaki H, Kosugi M, Takahashi S, Wakasa K, Shiratori S, Ibata M, **Shono, Y**, Shigematsu A, Obara M, Fujimoto K, Endo T, Nishio M, Kondo T, Hashino S, Tanaka J, Asaka M, Imamura M. Efficacy of folinic acid in preventing oral mucositis in allogeneic hematopoietic stem cell transplant patients receiving MTX as prophylaxis for GVHD. *Bone Marrow Transplant* 2012, 47:258-264.
29. Abe J, Ueha S, Yoneyama H, **Shono Y**, Kurachi M, Goto A, Fukayama M, Tomura M, Kakimi K, Matsushima K. B cells regulate antibody responses through the medullary remodeling of inflamed lymph nodes. *Int Immunol* 2011, 24:17-27.
30. Arita K, Kondo T, Sugita J, Shigematsu A, Shiratori S, Wakasa K, Yasumoto A, Ibata M, **Shono Y**, Kikuchi M, Goto H, Takeda Y, Takahata M, Kato N, Nishio M, Ota S, Tanaka J, Imamura M. Sequential chemotherapy and myeloablative allogeneic hematopoietic stem cell transplantation for refractory acute lymphoblastic leukemia. *Int J Hematol* 2011, 94:291-295.
31. **Shono Y**, Kosugi-Kanaya M, Shiratori S, Sugita J, Fujimoto K, Kondo T, Nishio M, Tanaka J, Imamura M. Donor cell leukemia after umbilical cord blood transplantation: recurrent or de novo? The importance of diagnosis for therapeutic decision making. *Int J Hematol* 2011, 93:563-565.
32. Shiratori S, Kondo T, Fujisawa S, Kubota K, Kosugi M, **Shono Y**, Sugita J, Fujimoto K, Nishio M, Tanaka J, Koike T, Matsuno Y, Matsuno K, Asaka M, Imamura M. c-myc rearrangement in B-cell lymphoblastic lymphoma with the involvement of multiple extranodal lesions. *Leuk Lymphoma* 2011, 52:716-718.
33. Asanuma S, Tanaka J, Sugita J, Kosugi M, Shiratori S, Wakasa K, **Shono Y**, Shigematsu A, Kondo T, Kobayashi T, Asaka M, Imamura M. Expansion of CD4(+)CD25 (+) regulatory T cells from cord blood CD4(+) cells using the common γ -chain cytokines (IL-2 and IL-15) and rapamycin. *Ann Hematol* 2011, 90:617-624.
34. **Shono Y**, Ueha S, Wang Y, Abe J, Kurachi M, Matsuno Y, Sugiyama T, Nagasawa T, Imamura M, Matsushima K. Bone marrow graft-versus-host disease: early destruction of hematopoietic niche after MHC-mismatched hematopoietic stem cell transplantation. *Blood* 2010, 115:5401-5411. (Commentary in *Blood* 2010, 115:5284-5285, Featured in *Science-Business eXchange (SciBX)*, doi:10.1038/scibx.2010.476).
35. Toubai T, Paczesny S, **Shono Y**, Tanaka J, Lowler KP, Malter CT, Kasai M, Imamura M. Mesenchymal Stem Cells for Treatment and Prevention of Graft-Versus-Host Disease after Allogeneic Hematopoietic Cell Transplantation. *Curr Stem Cell Res Ther* 2009, 4:252-259.
36. Toubai T, **Shono Y**, Tone S, Ibata M, Kato N, Malter C, Lowler KP, Ota S, Tanaka J,

Asaka M, Imamura M. Serum soluble tumor necrosis factor-related apoptosis-inducing ligand level after allogeneic hematopoietic cell transplantation. *Leuk Lymphoma* 2009, 50:844-847.

37. Toubai T, **Shono Y**, Nishihira J, Ibata M, Suigita J, Kato N, Ohkawara T, Tone S, Lowler KP, Ota S, Tanaka J, Asaka M, Reddy P, Imamura M. Serum macrophage migration inhibitory factor (MIF) levels after allogeneic hematopoietic stem cell transplantation. *Int J Lab Hematol* 2009, 31:161-168.

38. Tanaka J, Sugita J, Asanuma S, Arita K, **Shono Y**, Kikutchi M, Shiratori S, Wakasa K, Yasumoto A, Shigematu A, Kondo T, Kobayashi T, Asaka M, Imamura M. Increased number of CD16(+)CD56(dim) NK cells in peripheral blood mononuclear cells after allogeneic cord blood transplantation. *Hum Immunol* 2009, 70:701-705.

39. Sawanobori Y, Ueha S, Kurachi M, Shimaoka T, Talmadge JE, Abe J, **Shono Y**, Kitabatake M, Kakimi K, Mukaida N, Matsushima K. Chemokine-mediated rapid turnover of myeloid-derived suppressor cells in tumor-bearing mice. *Blood* 2008, 111:5457-5466.

40. Toubai T, Hirate D, **Shono Y**, Ota S, Ibata M, Mashiko S, Sugita J, Shigematsu A, Miura Y, Kato N, Umehara S, Kahata K, Iwao N, Toyoshima N, Tanaka J, Asaka M, Imamura M. Chimerism and T cell receptor repertoire analysis after unrelated cord blood transplantation with a reduced-intensity conditioning regimen following autologous stem cell transplantation for multiple myeloma. *Int J Lab Hematol* 2008, 30:75-81.

41. Toubai T, **Shono Y**, Imamura M. The pathophysiology of acute graft-versus-host disease in allogeneic hematopoietic stem cell transplantation. *Res. Adv. in Hematology* 2007, 2:35-51.

42. Kaji M, Takana J, Sugita J, Kato N, Ibata M, **Shono Y**, Ota S, Kondo T, Asaka M, Imamura M. Ciprofloxacin inhibits lipopolysaccharide-induced toll-like receptor-4 and 8 expression on human monocytes derived from adult and cord blood. *Ann Hematol* 2008, 87:229-231.

43. Kato N, Tanaka J, Sugita J, Toubai T, Miura Y, Ibata M, **Shono Y**, Ota S, Kondo T, Asaka M, Imamura M. Regulation of the expression of MHC class-I related chain A, B(MICA, MICB) via chromatin remodeling and its impact on the susceptibility of leukemic cells to the cytotoxicity of NKG2D-expressing cells. *Leukemia* 2007, 21:2103-2108.

44. Tanaka J, Sugita J, Kato N, Toubai T, Ibata M, **Shono Y**, Ota S, Kondo T, Kobayashi T, Kobayashi M, Asaka M, Imamura M. Expansion of NK receptor(CD94/NKG2A)-expressing cytolytic CD8 T cells and CD4+CD25+ regulatory T cells from the same cord blood unit. *Exp Hematol* 2007, 35:1562-1566.

45. Toubai T, Tanaka J, Ota S, Shigematsu A, **Shono Y**, Ibata M, Hashino S, Kondo T, Kakinoki Y, Masauzi N, Kasai M, Iwasaki H, Kurosawa M, Asaka M, Imamura M. Efficacy and safety of micafungin in febrile neutropenic patients treated for hematological malignancies. *Intern Med* 2007, 46:3-9.

46. **Shono Y**, Tanaka J, Toubai T, Ota S, Ibata M, Mashiko S, Hirate D, Miura Y,

Umehara S, Toyoshima N, Asaka M, Imamura M. Abnormal expansion of naive B lymphocytes after unrelated cord blood transplantation- a case report. *Clin Lab Haematol* 2006, 28:351-354.

47. Toubai T, Tanaka J, Ota S, Fukuhara T, Hashino S, Kondo T, **Shono Y**, Morioka M, Kawamura T, Masauzi N, Kakinoki Y, Kobayashi H, Kunieda Y, Kasai M, Kurosawa M, Imamura M. Effect of granulocytes colony stimulating factor on decreased IL-12 p40 production during chemotherapy for B-cell lineage Non-Hodgkin's lymphoma patients. *Eur J Haematol* 2006, 77:403-9.

48. Toubai T, Tanaka J, Nishihira J, Ohkawara T, Hirate D, Kondo N, Tone S, **Shono Y**, Iwao N, Imamura M. Effect of macrophage migration inhibitory factor (MIF) on acute graft-versus-host disease in a murine model of allogeneic stem cell transplantation. *Transplant Immunol* 2006, 16:117-124.

49. Toubai T, Tanaka J, Ota S, Mori A, Ibata M, **Shono Y**, Mashiko S, Sugita J, Miura Y, Kato N, Umehara S, Kahata K, Toyoshima N, Asaka M, Imamura M. Successful reduced-intensity stem cell transplantation (RIST) for a patient with malignant lymphoma and an ileostomy. *Intern Med* 2005, 44:476-479.

50. Toubai T, Tanaka J, Higa T, Ota S, Ibata M, **Shono Y**, Mashiko S, Miura Y, Umehara S, Kahata K, Toyoshima N, Morioka M, Asaka M, Kasai M, Imamura M. Long-term follow-up of a patient with idiopathic myelofibrosis associated with chromosome 11 and 13 abnormalities. *Am J Hematol* 2005, 78:67-70.