

Prof. Katharina Fleischhauer, M.D.



07.08.1963, Bonn (Germany)

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Professor

1 child

SCIENTIFIC VITA

2013	-	present	Full Professor and Director of the Institute for Experimental Cellular Therapy (University Hospital Essen)
2001	-	2013	Director of the HLA Tissue Typing Laboratory and Research Unit of Molecular and Functional Immunogenetics, Immunohematology & Blood Transfusion Service, San Raffaele Scientific Institute, Milan, Italy
2005			Board in Allergology and Clinical Immunology, Vita-Salute University San Raffaele, Milan, Italy
1997	-	2001	Staff Research Assistant, Department of Experimental Hematology, San Raffaele Scientific Institute, Milan, Italy
1992	-	1997	Postdoctoral Research Fellow, Department of Experimental Hematology, San Raffaele Scientific Institute, Milan, Italy
1988	-	1992	Research Associate, Department of Immunogenetics, Memorial Sloan Kettering Cancer Center, New York, USA
1985	-	1988	Doctoral Thesis University of Bonn, Institute for Medical Parasitology (Serologic Immune Response to <i>Toxoplasma gondii</i>)
1988			Medical Doctor, University of Bonn, Germany

COORDINATING FUNCTIONS

- Elected Chair of the Immunobiology Working Committee of the Center for International Blood and Marrow Transplant Research (CIBMTR) (since 2013)
- Chair of the Scientific Committee of the European Federation for Immunogenetics (EFI)
- Reviews Editor for *HLA* (formerly *Tissue Antigens* - since 2011)
- Chairman of the 24th EFI Conference in Florence, Italy - May 15-18, 2010
- Grant reviewer (selection) for Deutsche Forschungsgemeinschaft, Landsteiner Foundation (The Netherlands), Deutsche José Carreras Leukämienstiftung
- *Ad hoc* reviewer for (selection): *Blood*, *Leukemia*, *Journal of Immunology*, *European Journal of Immunology*, *Haematologica*, *Bone Marrow Transplantation*, *Biology of Blood and Marrow Transplantation*

MEMBERSHIP IN SCIENTIFIC SOCIETIES

- Associazione Italiana di Immunogenetica e Biologia dei Trapianti (AIBT)
- Deutsche Arbeitsgemeinschaft für Knochenmark- und Blutstammzelltransplantation (DAG-KBT)
- Deutsche Gesellschaft für Hämatologie und Medizinische Onkologie (DGHO)
- Deutsche Gesellschaft für Immungenetik (DGI)
- Deutsche Gesellschaft für Transfusionsmedizin und Immunhämatologie (DGTI)
- Deutsches Register für Stammzelltransplantation (DRST)
- European Group for Blood and Marrow Transplantation (EBMT)
- European Federation for Immunogenetics (EFI)

FIELDS OF INTEREST

Immunobiology of allogeneic hematopoietic stem cell transplantation for the cure of leukemia and of other malignant and non-malignant hematopoietic disorders, with particular regards to the effects of genetic donor-recipient mismatches on alloreactivity and clinical outcome. Methods include *in vitro* assays for the isolation and characterization of antigen-specific T cells, flow cytometry, molecular biology for high resolution HLA typing and quantitative PCR-based chimerism assays.

AWARDS & HONORS

2010	Jon van Rood Award, Immunobiology Working Party, EBMT
2010	Catalano Award, AIBT
2016	DKMS Mechtild Harf Science Award

CURRENTLY FUNDED PROJECTS

- EU-Transcan CANCER12-045-HLALOSS
- Deutsche José Carreras Leukämienstiftung DJCLS R 15/02
- Joseph-Senker-Foundation
- Dr. Werner Jackstädt Foundation

PUBLICATION SUMMARY

- Author of 78 peer-reviewed publications (22 first and 16 last author) and 2 book chapters
- Scopus H-index 27

29.07.2016

PUBLICATIONS

1. Crivello P, Heinold A, Rebmann V, Ottinger HD, Horn PA, Beelen DW, **Fleischhauer K**. Functional distance between recipient and donor HLA-DPB1 determines non-permissive mismatches in unrelated HCT. *Blood* 2016 Jul 7;128(1):120-9. doi: 10.1182/blood-2015-12-686238. Epub 2016 May 9.
2. Arora M, Lee SJ, Spellman SR, Weisdorf DJ, Guan W, Haagenson M, Wang T, Horowitz MH, Verneris MR, **Fleischhauer K**, Hsu K, Thyagarajan B. Validation Study Failed to Confirm an Association between Genetic Variants in the Base Excision Repair Pathway and Transplant-Related Mortality and Relapse after Hematopoietic Cell Transplantation. *Biol Blood Marrow Transplant*. 2016 Aug;22(8):1531-2. doi: 10.1016/j.bbmt.2016.04.020. Epub 2016 May 4.
3. Gassa A, Kalkavan H, Jian F, Duhan V, Khairnar V, Shaabani N, Honke N, Carpinteiro A, Botezatu L, Crivello P, Dolff S, Ferencik S, Häussinger D, Khandanpour C, **Fleischhauer K**, Witzke O, Wahlers T, Hardt C, Lang PA, Lang KS. High Frequencies of Anti-Host Reactive CD8+ T Cells Ignore Non-Hematopoietic Antigen after Bone Marrow Transplantation in a Murine Model. *Cell Physiol Biochem* 2016 Mar 24;38(4):1343-1353. doi: 10.1159/000443078.
4. Fleischhauer K, Beelen DW. HLA mismatching as a way of reducing relapse after alternative donor transplantation. *Sem Hematol* 2016 Apr 4;53(2):57-64. doi: 10.1053/j.seminhematol.2016.01.010.
5. Mennonna D, Maccalli C, Romano MC, Garavaglia C, Capocefalo F, Bordoni R, Severgnini M, De Bellis G, Sidney J, Sette A, Gori A, Longhi R, Braga M, Ghirardelli L, Baldari L, Orsenigo E, Albarello L, Zino E, **Fleischhauer K**, Mazzola G, Ferrero N, Amoroso A, Casorati G, Parmiani G, Dellabona P. T cell neoepitope discovery in colorectal cancer by high throughput profiling of somatic mutations in expressed genes. *Gut* 2015. doi: 10.1136/gutjnl-2015-309453. Epub Dec 17.
6. **Fleischhauer K**. Immunogenetics of HLA-DP - a new view of permissible mismatches. *New England J Med* 2015 Aug 13;373(7):669-72. doi: 10.1056/NEJMe1505539.
7. Crucitti L, Crocchiolo R, Toffalori C, Mazzi B, Greco R, Signori A, Sizzano F, Chiesa L, Zino E, Lupo Stanghellini MT, Assanelli A, Carrabba MG, Markt S, Marcatti M, Bordignon C, Corti C, Bernardi M, Peccatori J, Bonini C, **Fleischhauer K**, Ciceri F, Vago L. Incidence, risk factors and clinical outcome of leukemia relapses with loss of the mismatched HLA after partially incompatible hematopoietic stem cell transplantation. *Leukemia* 2014 May;29(5):1143-52. doi: 10.1038/leu.2014.314. Epub Nov 5.
8. Crivello P, Zito L, Sizzano F, Zino E, Maiers M, Mulder A, Toffalori C, Naldini L, Ciceri F, Vago L, **Fleischhauer K**. The impact of amino acid variability on alloreactivity defines a functional distance predictive of permissive HLA-DPB1 mismatches in hematopoietic stem cell transplantation. *Biol Blood Marrow Transplant* 2015 Feb;21(2):233-41. doi: 10.1016/j.bbmt.2014.10.017. Epub 2014 Oct 23.
9. Piras IS, Angius A, Andreani M, Testi M, Lucarelli G, Floris M, Markt S, Ciceri F, Nasa GL, **Fleischhauer K**, Roncarolo MG, Bulfone A, Gregori S, Bacchetta R. BAT2 and BAT3 polymorphisms as novel genetic risk factors for rejection after HLA-related SCT. *Bone Marrow Transplant* 2014 Nov;49(11):1400-4. doi: 10.1038/bmt.2014.177. Epub 2014 Aug 11.
10. **Fleischhauer K**, Fernandez-Viña MA, Wang T, Haagenson M, Battiwalla M, Baxter-Lowe LA, Ciceri F, Dehn J, Gajewski J, Hale GA, Heemskerk MBA, Marino SR, McCarthy PL, Miklos D, Oudshoorn M, Pollack MS, Reddy V, Senitzer D, Shaw BE, Waller EK, Lee SJ, Spellman SR. Risk-associations between HLA-DPB1 T cell epitope matching and outcome of unrelated hematopoietic cell transplantation are independent from HLA-DPA1. *Bone Marrow Transplant* 2014 Sep;49(9):1176-83. doi: 10.1038/bmt.2014.122. Epub 2014 Jun 23.
11. Peccatori J, Forcina A, Clerici D, Crocchiolo R, Vago L, Stanghellini MT, Noviello M, Messina C, Crotta A, Assanelli A, Markt S, Olek S, Mastaglio S, Giglio F, Crucitti L, Lorusso A, Guggiari E, Lunghi F, Carrabba M, Tassara M, Battaglia M, Ferraro A, Carbone MR, Oliveira G, Roncarolo MG, Rossini S, Bernardi M, Corti C, Marcatti M, Patriarca F, Zecca M, Locatelli F, Bordignon C, **Fleischhauer K**, Bondanza A, Bonini C, Ciceri F. Sirolimus-based graft-versus-host disease prophylaxis promotes the in vivo expansion of regulatory T cells and permits peripheral blood stem cell transplantation from haploidentical donors. *Leukemia* 2015 Feb;29(2):396-405. doi: 10.1038/leu.2014.180. Epub Jun 4.
12. Patriarca F, Luznik L, Medeot M, Zecca M, Bacigalupo A, Di Bartolomeo P, Arcese W, Corradini P, Ciceri F, Vago L, Kanakry CG, **Fleischhauer K**, Martelli MF, Bosi A, Rambaldi A, Cesaro S, Russo D, Fanin R. Experts' considerations on HLA-haploidentical stem cell transplantation. *Eur J Haematol* 2014 Sep;93(3):187-97. doi: 10.1111/ejh.12322. Epub 2014 Apr 26.
13. Lauterbach N*, Crivello P*, Wieten L, Zito L, Groeneweg M, Voorter CE, **Fleischhauer K**, Tilanus MG. Allorecognition of HLA-DP by CD4+ T cells is affected by polymorphism in its alpha chain. *Mol Immunol* 2014 May;59(1):19-29. doi: 10.1016/j.molimm.2013.12.006. Epub 2014 Jan 22. *equal

contribution

14. Longhi E, Crivello P, Mantovani M, Frison S, **Fleischhauer K**, Crespiatico L, Piccolo G, Poli F. Molecular modelling of HLA-B*35:132. *Int J Immunogenet* 2014 Jun;41(3):195-7. doi: 10.1111/iji.12105. Epub 2014 Jan 9.
15. Shaw BE, Robinson J, **Fleischhauer K**, Madrigal JA, Marsh SG. Translating the HLA-DPB1 T-cell epitope-matching algorithm into clinical practice. *Bone Marrow Transplant* 2013 Nov;48(12):1510-2. doi: 10.1038/bmt.2013.91. Epub 2013 Jul 1.
16. Crivello P*, Lauterbach N*, Zito L, Sizzano F, Toffalori C, Marcon J, Curci L, Mulder A, Wieten L, Zino E, Voorter CEM, Tilanus MGJ, **Fleischhauer K**. Effects of transmembrane region variability on cell surface expression and allorecognition of HLA-DP3. *Hum Immunol* 2013 Aug;74(8):970-7. doi: 10.1016/j.humimm.2013.04.014. Epub 2013 Apr 23. *equal contribution
17. Mack SJ, Cano P, Hollenbach JA, He J, Hurley CK, Middleton D, Moraes ME, Pereira SE, Kempenich JH, Reed EF, Setterholm M, Smith AG, Tilanus MG, Torres M, Varney MD, Voorter CE, Fischer GF, **Fleischhauer K**, Goodridge D, Klitz W, Little AM, Maiers M, Marsh SG, Müller CR, Noreen H, Rozemuller EH, Sanchez-Mazas A, Senitzer D, Trachtenberg E, Fernandez-Vina M. Common and well-documented HLA alleles: 2012 update to the CWD catalogue. *Tissue Antigens* 2013 Apr;81(4):194-203. doi: 10.1111/tan.12093.
18. Casucci M, Kimi Perna S, Falcone L, Camisa B, Magnani Z, Bernardi M, Crotta A, Tresoldi C, **Fleischhauer K**, Ponzoni M, Gregori S, Caligaris Cappio F, Ciceri F, Bordignon C, Cignetti A, Bondanza A, Bonini C. Graft-versus-leukemia Effect of HLA-haploidentical Central-memory T-cells Expanded With Leukemic APCs and Modified With a Suicide Gene. *Mol Ther* 2013 Feb;21(2):466-75. doi: 10.1038/mt.2012.227. Epub 2012 Nov 13.
19. Petersdorf EW, Malkki M, Hsu K, Bardy P, Cesbron A, Dickinson A, Dubois V, **Fleischhauer K**, Kawase T, Madrigal A, Morishima Y, Shaw B, Spellman S, Spierings E, Stern M, Tiercy JM, Velardi A, Gooley T; on behalf of the International Histocompatibility Working Group in Hematopoietic Cell Transplantation. 16th IHIW: International Histocompatibility Working Group in Hematopoietic Cell Transplantation. *Int J Immunogenet* 2013 Feb;40(1):2-10. doi: 10.1111/iji.12022. Epub 2012 Dec 28.
20. Vago L, Toffalori C, Ciceri F, **Fleischhauer K**. Genomic loss of mismatched human leukocyte antigen and leukemia immune escape from haploidentical graft-versus-leukemia. *Semin Oncol* 2012 Dec;39(6):707-15. doi: 10.1053/j.seminoncol.2012.09.009.
21. Hilton HH*, Vago L*, Older Aguilar AM, Moesta AK, Graef T, Abi Rached L, Norman PJ, Guethlein LA, **Fleischhauer K**, Parham P. Mutation at positively selected positions in the binding site for HLA-C shows KIR2DL1 is a more refined but less adaptable NK Cell Receptor than KIR2DL3. *J Immunol* 2012 Aug 1;189(3):1418-30. doi: 10.4049/jimmunol.1100431. Epub 2012 Jul 6. *equal contribution
22. Toffalori C, Cavattoni I, Deola S, Mastaglio S, Giglio F, Mazzi B, Assanelli A, Peccatori J, Bordignon C, Bonini C, Cortelazzo S, Ciceri F, **Fleischhauer K***, Vago L. Genomic loss of patient-specific HLA in acute myeloid leukemia relapse after well-matched unrelated donor HSCT [letter]. *Blood* 2012 May 17;119(20):4813-5. doi: 10.1182/blood-2012-02-411686. *corresponding author
23. Hollenbach JA, Madbouly A, Gragert L, Vierra-Green C, Flesch S, Spellman S, Begovich A, Noreen H, Trachtenberg E, Williams T, Yu N, Shaw B, **Fleischhauer K**, Fernandez-Vina M, Maiers M. A combined DPA1-DPB1 amino acid epitope is the primary unit of selection on the HLA-DP heterodimer. *Immunogenetics* 2012 Aug;64(8):559-69. doi: 10.1007/s00251-012-0615-3. Epub 2012 Apr 13.
24. Sizzano F, Testi M, Zito L, Crocchiolo R, Troiano M, Mazzi B, Turchiano GD, Torchio M, Pultrone C, Gregori S, Chiesa R, Gaziev J, Sodani P, Markt S, Roncarolo MG, Lucarelli G, Ciceri F, Andreani M, **Fleischhauer K**. Genotypes and haplotypes in the 3' untranslated region of the HLA-G gene and their association with clinical outcome of hematopoietic stem cell transplantation for beta-thalassemia. *Tissue Antigens* 2012 May;79(5):326-32. doi: 10.1111/j.1399-0039.2012.01862.x.
25. Mantovani M, Crivello P, Frison S, Longhi E, **Fleischhauer K**, Scalamogna M, Poli F. Description and molecular modeling of a novel human leukocyte antigen allele: A*32:22. *Hum Immunol* 2012 May;73(5):526-8. doi: 10.1016/j.humimm.2012.02.013. Epub 2012 Feb 16.
26. **Fleischhauer K***, Shaw BE*, Gooley T, Malkki M, Bardy P, Bignon JD, Dubois V, Horowitz MM, Madrigal JA, Morishima Y, Oudshoorn M, Ringden O, Spellman S, Velardi A, Zino E, Petersdorf EW. Effect of T-cell-epitope matching at HLA-DPB1 in recipients of unrelated donor haemopoietic-cell transplantation: a retrospective study. *Lancet Oncol* 2012 Apr;13(4):366-74. doi: 10.1016/S1470-2045(12)70004-9. Epub 2012 Feb 15. Erratum in: *Lancet Oncol* 2012 Apr;13(4):e134-5. *equal contribution
27. Bondanza A, Hambach L, Aghai Z, Nijmeijer B, Kaneko S, Mastaglio S, Radrizzani M, **Fleischhauer K**, Ciceri F, Bordignon C, Bonini C, Goulmy E. IL-7 receptor expression identifies suicide gene-mediated allospecific CD8+ T cells capable of self-renewal and differentiation into antileukemia effectors. *Blood* 2011 Jun 16;117(24):6469-78. doi: 10.1182/blood-2010-11-320366. Epub 2011 Apr

- 29.
28. Pasi A, Crocchiolo R, Bontempelli M, Carcassi C, Carella G, Crespiatico L, Garbarino L, Mascaretti L, Mazzi B, Mazzola G, Miotti V, Porfirio B, Tagliaferri C, Valentini T, Vecchiato C, **Fleischhauer K**, Sacchi N, Bosi A, Martinetti M. The conundrum of HLA-DRB1*14:01/*14:54 and HLA-DRB3*02:01/02:02 mismatches in unrelated hematopoietic SCT. *Bone Marrow Transplant* 2011 Jul;46(7):916-22. doi: 10.1038/bmt.2010.246. Epub 2010 Oct 25.
 29. Sizzano F, Zito L, Crivello P, Crocchiolo R, Vago L, Zino E, **Fleischhauer K**. Significantly higher frequencies of alloreactive CD4+ T cells responding to non-permissive than to permissive HLA-DPB1 T cell epitope disparities [letter]. *Blood* 2010 Sep 16;116(11):1991-2. doi: 10.1182/blood-2010-05-284687.
 30. Bacchetta R, Gregori S, Serafini G, Sartirana C, Schulz U, Zino E, Tomiuk S, Jansen U, Ponzoni M, Paties CT, **Fleischhauer K**, Roncarolo MG. Molecular and functional characterization of alloantigen-specific anergic T-cells suitable for cell therapy. *Haematologica* 2010 Dec;95(12):2134-43. doi: 10.3324/haematol.2010.025825. Epub 2010 Aug 16.
 31. Serafini M, Poli F, Torelli R, **Fleischhauer K**, Zino E, Arias AE, Longhi E, Frison S, Karpasitou K, Pezzali I, Lecchi L, Scalamogna M. The impact of immunogenetics and clinical factors on the outcome of unrelated cord blood transplantation: The Milano Cord Blood Bank data. *Transfus Apher Sci* 2010 Jun;42(3):283-8. doi: 10.1016/j.transci.2010.03.007. Epub 2010 Apr 3.
 32. Markt S*, Napolitano S*, Zino E*, Cappelli B, Chiesa R, Poli F, Crocchiolo R, Ronchi P, Rossini S, Ciceri F, Roncarolo MG, **Fleischhauer K**. Platelet transfusion refractoriness in highly immunized beta thalassemia children undergoing stem cell transplantation. *Pediatr Transplant* 2010 May;14(3):393-401. doi: 10.1111/j.1399-3046.2009.01282.x. Epub 2010 Jan 7. *equal contribution.
 33. Serafini G, Andreani M, Testi M, Battarra MR, Bontadini A, **Fleischhauer K**, Markt S, Lucarelli G, Roncarolo MG, Bacchetta R. Type 1 regulatory T cells are associated with persistent split erythroid/lymphoid chimerism after allogeneic hematopoietic stem cell transplantation for thalassemia. *Hematologica* 2009 Oct;94(10):1415-26. doi: 10.3324/haematol.2008.003129. Epub 2009 Jul 16.
 34. Vago L, Perna SK, Zanussi M, Mazzi B, Barlassina C, Lupo Stanghellini MT, Perrelli NF, Cosentino C, Torri F, Angius A, Forno B, Casucci M, Bernardi M, Peccatori J, Corti C, Bondanza A, Ferrari M, Rossini S, Roncarolo MG, Bordignon C, Bonini C, Ciceri F, **Fleischhauer K**. Loss of mismatched HLA in leukemia after stem-cell transplantation. *N Engl J Med* 2009 Jul 30;361(5):478-88. doi: 10.1056/NEJMoa0811036.
 35. Ciceri F, Bonini C, Lupo Stanghellini MT, Bondanza A, Traversari C, Salomoni M, Turchetto L, Colombi S, Bernardi M, Peccatori J, Pescarollo A, Servida P, Magnani Z, Perna SK, Valtolina V, Crippa F, Callegaro L, Spoldi E, Crocchiolo R, **Fleischhauer K**, Ponzoni M, Vago L, Santoro A, Todisco E, Apperley J, Olavarria E, Slavin S, Weissinger EM, Hertenstein B, Stadler M, Yannaki E, Fassas A, Anagnostopoulos A, Bregni M, Gallo Stampino C, Bruzzi P, Bordignon C. Early and effective immunorecovery after family haploidentical hematopoietic transplantation for leukemia by gene-engineered lymphocytes: the TK007 study. *Lancet Oncology* 2009 May;10(5):489-500. doi: 10.1016/S1470-2045(09)70074-9. Epub 2009 Apr 1.
 36. Crocchiolo R, Ciceri F, **Fleischhauer K**, Oneto R, Bruno B, Pollichieni S, Sacchi N, Sormani MP, Fanin R, Bandini G, Bonifazi F, Bosi A, Rambaldi A, Alessandrino PE, Falda M, Bacigalupo A. HLA matching affects clinical outcome of adult patients undergoing haematopoietic SCT from unrelated donors: a study from the Gruppo Italiano Trapianto di Midollo Osseo and Italian Bone Marrow Donor Registry. *Bone Marrow Transplant* 2009 Nov;44(9):571-7. doi: 10.1038/bmt.2009.67. Epub 2009 Apr 13.
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 38. Franceschetti M, Pievani A, Borleri G, Vago L, **Fleischhauer K**, Golay J, Intronà M. Cytokine Induced Killer Cells are terminally differentiated activated CD8 cytotoxic T EMRA lymphocytes. *Experimental Hematology* 2009 May;37(5):616-628.e2. doi: 10.1016/j.exphem.2009.01.010.
 39. Kaneko S, Mastaglio S, Bondanza A, Ponzoni M, Sanvito F, Aldrighetti L, Radrizzani M, La Seta-Catamancio S, Provasi E, Mondino A, Nagasawa T, **Fleischhauer K**, Russo V, Traversari C, Ciceri F, Bordignon C, Bonini C. IL-7 and IL-15 allow the generation of suicide gene-modified alloreactive self-renewing central memory human T lymphocytes. *Blood* 2009 Jan 29;113(5):1006-15. doi: 10.1182/blood-2008-05-156059. Epub 2008 Oct 31.
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- functional characteristics of single-KIR positive alloreactive NK cell recovery account for impaired graft versus leukemia activity after haploidentical HSCT. *Blood* 2008 Oct 15;112(8):3488-99. doi: 10.1182/blood-2007-07-103325. Epub 2008 Jul 21.
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 43. Zino E, Vago L, Di Terlizzi S, Mazzi B, Zito L, Sironi E, Rossini S, Bonini C, Ciceri F, Roncarolo MG, Bordignon C, **Fleischhauer K**. Frequency and targeted detection of HLA-DPB1 T cell epitope disparities relevant in unrelated hematopoietic stem cell transplantation. *Biol Blood Marrow Transplant* 2007 Sep;13(9):1031-40. Epub 2007 Jul 20.
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 45. Bregni M, **Fleischhauer K**, Bernardi M, Pescarollo A, Guggiari E, Lunghi F, Deola S, Scaramuzza S, Re F, Setola E, Monari M, Mazzi B, Servida P, Corradini P, Peccatori J. Bone marrow mammaglobin expression as a marker of graft-versus-tumor effect after reduced-intensity allografting for advanced breast cancer. *Bone Marrow Transplant* 2006 Feb;37(3):311-5.
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 48. Bondanza A, Valtolina V, Magnani Z, Ponzoni M, **Fleischhauer K**, Bonyhadi M, Traversari C, Sanvito F, Toma S, Radrizzani M, La Seta-Catamancio S, Ciceri F, Bordignon C, Bonini C. Suicide gene therapy of graft-versus-host disease induced by central memory human T lymphocytes. *Blood* 2006 Mar 1;107(5):1828-36. Epub 2005 Nov 17.
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