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EDUCATION/CERTIFICATIONS:

11/96 **Board Certified**, Pediatric Hematology-Oncology (valid until 10/12).
12/92 **Board Certified**, American Board of Pediatrics.
11/89 **Licensed**, (#A047844) to practice in the State of California.
11/89 **Physician and Surgeon** oral examination for the State of California.
06/87 **Flex Part I** (score 83) and **Part II** (score 83).
06/86 **ECFMG** certificate # 397-208-0.
07/85 **FMGEMS**.
09/76-09/82 **M.D. Degree**, Wroclaw University School of Medicine, Wroclaw, Poland (with honors).

CLINICAL EXPERIENCE/TRAINING:

07/04-present Associate Professor of Clinical Medicine and Pediatrics. University of California, San Diego, Department of Blood & Marrow Transplant Program, San Diego, CA (2004-present).
01/98-6/04 Assistant Professor of Medicine and Pediatrics. University of California, San Diego, Department of Blood & Marrow Transplant Program, San Diego, CA.
07/97-12/97 Assistant Clinical Professor of Pediatrics. University of California, San Francisco, Division of Pediatric Bone Marrow Transplant, San Francisco, CA.
07/91-06/97 Postdoctoral Fellowship. University of California, San Francisco, Pediatric Bone Marrow Transplant, San Francisco, CA.
07/91-06/94 Hematology-Oncology Fellowship. Children's Hospital, Oakland, CA.
07/90-06/91 Pediatric Residency. Stanford University Medical Center, Stanford, CA.
07/88-06/90 Pediatric Residency. White Memorial Medical Center, Loma Linda University, Los Angeles, CA.
09/87 Medical Sub-internship. Stanford University Medical School, Internal Medicine Department. Stanford, CA.
07/83-07/84 Residency in Neurology. General Hospital, Jelenia Gora, Poland .
09/82-09/83 Rotating Internship (Medicine, Surgery, OB/Gyn, Ped). General Hospital, Jelenia Gora, Poland.

RESEARCH INTERESTS:

Embryonic stem cells-biology and clinical applications
Endometrial regenerative cells (ERC)
Cord blood stem cells-homing and engraftment
HA (hyaluronic acid) in homing of stem cells
Regenerative medicine
Tolerance/immunity following transplantation

Allogeneic transplants with reduced toxicity
Cancer Stem Cells
Mechanism of resistance in Velcade
Multiple Myeloma niche and stem cells

CLINICAL INTERESTS

Multiple Myeloma-combinatorial therapies
Reduced intensity allogeneic transplantation
Transplantation for severe autoimmune diseases (SAD)

CLINICAL PROTOCOLS

Principal Investigator

Protocol For The Use of AMD3100 to Mobilize Peripheral Blood Stem Cells For Collection and Transplantation -
Emergency Compassionate Use, Single Patient IND.
Erythropoietic Differentiation of Human ES Cells

CTLA-4 Blockade with MDX-010 to Induce Graft-Versus-Malignancy Effects Following Allogeneic Hematopoietic
Stem Cell Transplantation. (NCI Protocol Number P-6082) (closed to accrual)..

Phase 3 Randomized, Open-label Clinical Trial of Tanespimycin (KOS-953) plus Bortezomib Compared to
Bortezomib Alone in Patients with Multiple Myeloma in First Relapse [Protocol KAG-301] [Protocol Version 21-
JUL-2007]

Autologous Stem Cell Transplant for Myasthenia Gravis

Collection of Bone Marrow from Patients with Multiple Myeloma for Study of New Therapies.

A Pilot Study of High-Dose Immunosuppression and Autologous Stem Cell Infusion in Patients with Systemic Lupus

Erythematosus Refractory to Conventional Therapy (closed to accrual)
Autologous Stem Cell Transplant for Myasthenia Gravis – a retrospective analysis.

Co-investigator

Pilot Study of Allogeneic Peripheral Blood Progenitor Cell Transplantation in Patients with Chemotherapy-Refractory or Poor-
Prognosis Metastatic Breast Cancer.

Pilot Study of a Non-Myeloablative Preparative-Regimen for Allogeneic Peripheral Blood Progenitor Cell Transplantation in
Patients with Chronic Myeloid and Lymphoid Malignancies.

Phase II Study of a Non-Myeloablative Preparative-Regimen for Allogeneic Hematopoietic Cell Transplantation From Matched
Unrelated Donors in Patients with Chronic Myeloid and Lymphoid Malignancies.

A Phase II Study of Tumor-Specific Idiotype (Id) and Soluble GM-CSF Vaccination Following Autologous Peripheral Blood Stem
Cell Transplantation in Patients with Low-Grade Non-Hodgkin's Lymphomas.

Phase II Study of FavId (Tumor-Specific Idiotype-KLH) and Soluble GM-CSF Immunotherapy in Patients with Stable or
Progressive Grade 1 or 2 Follicular B-Cell Lymphomas [FavId01]

Phase II Trial of Rituxan® plus FavId™ (Tumor-Specific Idiotype-KLH) and GM-CSF Immunotherapy in Patients with Grade 1 or
2 Follicular B-Cell Lymphoma [FavId-04].

Phase II Study of Continued Immunotherapy with FavId (Id-KLH) and GM-CSF in Patients with Stable or Responding Grade 1 or 2 Follicular B-Cell Lymphomas Following Initial FavId/GM-CSF Treatment. [FavId-08]

Delayed Blockade of CTLA-4 to Induce Graft-Versus-Malignancy Effects Following Allogeneic Hematopoietic Stem Cell Transplantation.

A phase III study of STI571 versus Interferon- α (IFN- α) combined with Cytarabine (Ara-C) in patients with newly diagnosed previously untreated Philadelphia chromosome positive (Ph+) chronic myelogenous leukemia in chronic phase (CML-CP).

Analysis of NKT cell expansion and function from patients with hematological disorders

Pre-administration of Rabbit Antithymocyte Globulin to Optimize Donor T-Cell Engraftment Following Reduced Intensity Allogeneic Peripheral Blood Progenitor Cell Transplantation From Matched-Related Donors

A Randomized, Double-Blind, Placebo-Controlled Study to Assess the Efficacy and Safety of Prophylactic Use of Maribavir for the Prevention of Cytomegalovirus Disease in Recipients of Allogeneic Stem Cell Transplants.

STUDY CT-2007-01: Phase II Safety and Efficacy Study of the Monoclonal Antibody CT-011 in Patients with Diffuse Large B-Cell Lymphoma following Autologous Stem Cell Transplantation.

National Marrow Donor Program® and Center for International Blood and Marrow Transplant Research: Protocol for A Research Database for Hematopoietic Stem Cell Transplantation and Marrow Toxic Injuries; and Protocol for a Research Sample Repository for Allogeneic Hematopoietic Stem Cell Transplantation.

AMD3100-CUP001: Compassionate Use Protocol For The Use of AMD3100 to Mobilize Peripheral Blood Stem Cells For Collection and Transplantation.

(a)A Phase I/II Trial of the Combination 5-azacitidine and Gemtuzumab Ozogamicin Therapy for Treatment of Relapsed AML

Collection of Peripheral Blood or Marrow from Subjects With Leukemia, Lymphoma, Myelodysplastic Syndrome [MDS], or Multiple Myeloma for Studies of New Therapies

Retrospective analysis of disease, treatment, and patient related characteristics in long-term survivors with metastatic breast cancer following high dose chemotherapy with autologous stem cell transplantation.

Expanded Access Study of Plerixafor and G-CSF for the Mobilization and Collection of Peripheral Blood Stem Cells for Autologous Stem Cell Transplantation in patients with Non-Hodgkin's Lymphoma, Hodgkin's Disease or Multiple Myeloma.

A Clinical Trial of Cytotoxic T cells augmenting Autologous Hematopoietic Stem Cell Transplantation for Acute Myeloid Leukemia

BMT CTN Protocols:

0101 A Randomized Double-blind Trial of Fluconazole Versus Voriconazole for the Prevention of Invasive Fungal Infections in Allogeneic Blood and Marrow Transplant Patients

0102 A Trial of Tandem Autologous Stem Cell Transplants +/- Post Second Autologous Transplant Maintenance Therapy Versus Single Autologous Stem Cell Transplant Followed by Matched Sibling Non-Myeloablative Allogeneic Stem Cell Transplant for Patients with Multiple Myeloma.

0201 A Phase III Randomized, Multicenter Trial Comparing G-CSF Mobilized Peripheral Blood Stem Cell with Marrow Transplantation from HLA Compatible Unrelated Donors

0202 Autologous vs. Non-Myeloablative Allogeneic Hematopoietic Stem Cell Transplantation (HSCT) for Patients with Chemosensitive Follicular Non-Hodgkin's Lymphoma Beyond First Complete Response or First Partial Response

0302 Initial Systemic Treatment of Acute GVHD: A Phase II Randomized Trial Evaluating Etanercept, Mycophenolate Mofetil (MMF), Denileukin Diftitox (Ontak), and Pentostatin in Combination with Corticosteroids

0401 Phase III Rituxan/BEAM vs. Bexxar/BEAM with Autologous Hematopoietic Stem Cell Transplantation (ASCT) for Persistent or Relapsed Chemotherapy Sensitive Diffuse Large B-cell Non-Hodgkin's Lymphoma

0402 Phase III Randomized, Multicenter Trial Comparing Sirolimus/Tacrolimus with Tacrolimus/Methotrexate as Graft-Versus-Host Disease (GVHD) Prophylaxis After HLA-Matched, Related Peripheral Blood Stem Cell transplantation.

0502 BMT CTN Protocol 0502/CALGB 100103 – Phase II Study of Allogeneic Transplant for Older Patients with AML in First Morphologic Complete Remission Using a Non-Myeloablative Preparative Regimen.

0603 A Multi-Center, Phase II Trial of Nonmyeloablative Conditioning and Transplantation of Partially HLA-Mismatched Bone Marrow for Patients with Hematologic Malignancies

0604 A Multi-Center, Phase II Trial of Non-Myeloablative Conditioning (NST) and Transplantation of Umbilical Cord Blood (UCB) from Unrelated Donors for Patients with Hematologic Malignancies

PAPERS AND PUBLICATIONS:

1. Horning, S, **Carrier, E.** Rouse, R, Warnke, R, Michie, S. Lymphomas presenting as histologically unclassified neoplasms: Characteristics and response to treatment. J Clin Oncol 7(9): 1281-1287, 1989.
2. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. Induction of tolerance in non-defective mice after *in utero* transplantation of major histocompatibility complex-mismatched fetal hematopoietic stem cells. Blood 86(12): 4681-4690, 1995.
3. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. Recruitment of engrafted donor cells postnatally into the blood with cytokines after *in utero* transplantation in mice. Transplantation 64(4): 627-633, 1997.
4. **Carrier, E.** *In Utero* Transplantation. Gaucher, Clinical Perspectives Molecular Medicine & Therapeutics 8(1) (Issn 1079-2058): 6-11, 2000.
5. Burt RK, Brenner M, Burns W, **Carrier E.** Firestein G, Hahn B, Heslop H, Link C, McFarland H, Roland M, Territo M, Tsokos G, Traynor A. Gene-marked autologous hematopoietic stem cell transplantation of autoimmune disease. J Clin Immunol 20(1): 1-9, 2000.
6. **Carrier E.** Gilpin E, Lee TH, Busch MP, Zanetti M. Microchimerism does not induce tolerance post *in utero* transplantation and may lead to the development of alloreactivity. J Lab Clin Med 136(3): 224-235, 2000.
7. Bashey A, Corringham S, Gilpin E, DeFrancisco C, Santos-Ada O, Holman P, **Carrier E.** Lane TA, Ball ED, Law P. Simultaneous administration of G-CSF and GM-CSF for re-mobilization in patients with inadequate initial progenitor cell collections for autologous transplantation. Cytotherapy 2(3): 195-200, 2000.
8. **Carrier E.** Burt R. Stem cell transplantation for autoimmune diseases: pros and cons. Current Opinion in Organ Transplantation 5: 343-351, 2000.
9. Donahue J, Gilpin B, Lee, T.H., Busch, M.P., Croft, M., and **Carrier E.** Microchimerism does not induce tolerance and sustains immunity after *in utero* transplantation. Transplantation, Vol 71(3) 359-368 February, 2001.
10. Donahue J, Gilpin E, Young D. and **Carrier, E.** Postnatal cytokines and boosts improve chimerism and hematological parameters in β -thalassemic mice transplanted *in utero*. Transplantation, Vol 71:10 1491-1494, May 2001.
11. Voltarelli JC, Ahmed H, Paton E, Stracieri AB, Holman P, Bashey A, Coutinho M, Simoes BP, Ball ED, and **Carrier E.** Beneficial effect of intravenous lidocaine in cutaneous chronic graft-versus-host disease secondary to donor lymphocyte infusion. Bone Marrow Transplant 28(1): 97-99, 2001.
12. Donahue J, **Carrier E.** Non-myeloablative transplants for congenital diseases. Cancer Treat Res. 2002; 110: 177-211. Review.

13. Francis, K., Palsson, B., Donahue, J., Fong, S., **Carrier, E.** Murine Sca-1⁺/Lin⁻ cells and human KG1a cells exhibit multiple pseudopod morphologies during migration. Exp. Hematol. 30: 460-463, 2002.
14. Sefriouri H, Donahue J, Gilpin EA, Srivastava AS, **Carrier E.** Tolerance and immunity following in utero transplantation of allogeneic fetal liver cells: the cytokine shift. Cell Transplant. 2003; 12 (1): 75-82.
15. Sefriouri H, Donahue J, Srivastava AS, Gilpin E, Lee TH, **Carrier E.** Alloreactivity following in utero transplantation of cytokine-stimulated hematopoietic stem cells: the role of recipient CD4(-) cells. Exp Hematol. 2002 Jun; 30(6): 617-24.
16. Donahue J, **Carrier E.** Non-myeloablative transplants for congenital diseases. Non Myeloablative Allogeneic Transplantation. Editors A. Bashey and E. Ball. Kluwer Academic Publishers 2002, 177-211
17. Tanner M.L., Hoh C.K., Bashey, A., Holman, P., Sun, C., Broome, H.E., Lane, T.A., Ball, E.D., **Carrier, E.:** FLAG chemotherapy followed by allogeneic stem cell transplant using nonmyeloablative conditioning induces regression of myelofibrosis with myeloid metaplasia. Bone Marrow Transplant 2003, 32(6): 581-85.
18. Srivastava A, **Carrier E.** Immunological factors that affect, the *in vivo* fate of T7 phage in the mouse, J Virol Methods, 2004 Jan; 115(1): 99-104.
19. Srivastava AS, Oohara I, Suzuki T, Shenouda S, Singh SN, Chauhan DP, **Carrier E.** Purification and properties of cytosolic alanine aminotransferase from the liver of two freshwater fish, *Clarias batrachus* and *Labeo rohita*. Comp Biochem Physiol B Biochem Mol Biol. 2004 Feb; 137(2): 197-207.
20. Wang EH, Chen YA, Bashey A, Holman P, Ball ED, **Carrier E.** High-dose CEB vs. BEAM with autologous stem cell transplant in lymphoma. Bone Marrow Transplant, 2004 Oct, 34(7): 581-7.
21. Srivastava A, Chauhan, DP, **Carrier, E.** In *utero* detection of T7 phage after systemic administration to pregnant mice. BioTechniques, Vol. 37, No. 1, July 2004.
22. Lane TA, Bashey A, **Carrier E.** Holman P, Castro J, Mullen M, Ward DM, Ada O, and Ball ED. Improving the efficiency of PBPC collection by pre-apheresis peripheral blood and mid-apheresis product measurements of CD34 cells. Cytotherapy, 2004, 6(4): 318-327.
23. Burt, RK., Marmont, A., Arnold, R., Heipe, F., Firestein, GS., **Carrier, E.**, Hahn, B., Barr, W., Oyama, Y., Snowden, J., Kalunian, K., Traynor, A.: Development of a phase III trial of hematopoietic stem cell transplantation for systemic lupus erythematosus. Bone Marrow Transplant 2003 32, 49-51.
24. Feng Z, **Carrier E.** A Regulatory Role of Wnt Signaling Pathway in the Hematopoietic Differentiation of Murine Embryonic Stem Cells. Biochem Biophys Res Commun. 2004 Nov 26; 324(4): 1333-9.
25. Moustafa M, Srivastava A, Nedelcu E, Donahue J, Gueorguieva I, Shenouda S, Minev B, and **Carrier E.**, Chimerism and tolerance post *in utero* transplantation with ontogenically different sources of stem cells. Transplantation. 2004 Nov 15; 78(9): 1274-82.
26. Chauhan, D.P., Srivastava, AS., Moustafa, M.E., Shenouda, S., **Carrier, E.** In *Utero* Gene Therapy: Prospect and Future. Curr Pharm Des., 2004, 10(29); 3663-72.
27. Lane, TA., Bashey, A., **Carrier, E.**, Holman, P., Castro, J., Mullen, M., Ward, DM, Ada, O., Ball, ED.: Improving the efficiency of PBPC collection by pre-apheresis peripheral blood and mid-apheresis product measurements of CD34 cells. Cytotherapy (2004) 6(4):318-327.

28. Kamrava MR, Anderson EM, Kalunian K, Bashey A, Holman P, Medina B, Ball ED, **Carrier E**. T-cell depletion improves outcome after autologous stem cell transplant in patients with systemic lupus erythematosus (SLE). *Bone Marrow Transplant*. 2005 Feb; 35(3): 321.
29. Richard K Burt, Bruce Cohen, Yu Oyama, Susan Stefoski, George Katsamakis, **Ewa Carrier**, George Ellison, Tomas Kozak, John Rose, Joel McGuirk, Paolo Muraro, Roger Hintzen, Shimon Slavin, Shalom Haggiag, Julio Voltarelli, Borko Jovanovic, Judith Haas, Renate Arnold. Hematopoietic Stem Cell Transplantation for Multiple Sclerosis. *Arch Neurol*. 2005 Jun;62(6):860-4. Review.
30. Rizzia M, Gerloni M, Srivastava AS, Wheeler MC, Schuler K, **Carrier E**, Zanetti M. In utero DNA immunization. Immunity over tolerance in fetal life. *Vaccine*. 2005 Jul 21; 23(33):4273-82.
31. Bashey A, Liu L, Ihasz A, Medina B, Corringham S, Keese K, **Carrier E**, Castro JE, Holman P, Lane T, Hassidim K, Ball Ed. Non-anthracycline based remission induction therapy for newly diagnosed patients with acute myeloid leukemia aged 60 or older. *Leuk Res*. 2006 Apr;30(4):503-6.
32. Srivastava AS, Shenouda S, Mishra R, **Carrier E**. Transplanted embryonic stem cells successfully survive, proliferate and migrate to damaged regions of the mouse brain. *Stem Cells* 2006 Jul;24(7):1689-94.
33. Srivastava AS, Kaushal S, Mishra R, Lane TA, **Carrier E**. Dexamethasone facilitates erythropoiesis in murine embryonic stem cells differentiating into hematopoietic cells *in vitro*. *Biochem Biophys Res Commun*. 2006 Jul 28; 346(2):508-16.
34. Anand S. Srivastava, Elena Nedelcu, Babak Esmaeli-Azad, Rangrath Mishra, **Carrier E**. Thrombopoietin enhances generation of CD34+ cells from human embryonic stem cells. *Stem Cells* 2007;25:1456-1461.
35. Srivastava AS, Feng Z, Mishra R, Malhotra R, Kim HS, **Carrier E**. Embryonic stem cells ameliorate piroxicam-induced colitis in IL10-/-KO mice. *Biochem Biophys Res Commun*. 2007 Oct 5; 361(4):953-9.
36. Bashey A, Donohue M, Liu L, Medina B, Corringham S, Ihasz A, **Carrier E**, Castro JE, Holman PR, Xu R, Law P, Ball ED, Lane TA. Peripheral blood progenitor cell mobilization with intermediate-dose cyclophosphamide, sequential granulocyte-macrophage-colony-stimulating factor and granulocyte-colony-stimulating factor, and scheduled commencement of leukapheresis in 225 patients undergoing autologous transplantation. *Transfusion*. 2007 Nov;47(11):2153-60.
37. Srivastava AS, Malhotra R, Esmaeli-Azad B, Lane T, **Carrier E**. Prospects of embryonic stem cells in treatment of hematopoietic disorders. *Curr Pharm Biotechnol*. 2007 Oct 8(5):305-17.
38. Liu J, Malhotra R, Voltzrelli J, Stracieri AB, Oliveira L, Simoes BP, Ball ED, Carrier E. Ovarian recovery after stem cell transplantation. *Bone Marrow Transplant*. 2008 Feb;41(3):275-8. Epub 2007 Oct 22
39. Bashey, A., Medina B, Corringham S, Pasek M, **Carrier E**, Vrooman L, Streicher H, Lowy I, Solomon SR, Morris LE, Holland K, Mason J. Soiffer R, Ball ED.: CTLA4 Blockade with Ipilimumab to Treat Relapse of Malignancy after Allogeneic Hematopoietic Cell Transplantation. *Blood*. 2009 Feb 12;113(7):1581-8. Epub 2008 Oct 30.
40. Murphy MP, Wang H, Patel AN, Kambhampati S, Angle N, Chan K, Marleau AM, Pyszniak A, **Carrier E**, Ichim TE, Riordan NH. Allogeneic endometrial regenerative cells: An "off the shelf solution" for critical limb ischemia? *J Transl Med*. 2008 Aug 19;6(1):45 [Epub ahead of print].
41. Murphy MP, Wang H, Patel AN, Kambhampati S, Angle N, Chan K, Marleau AM, Pyszniak A, **Carrier E**, Ichim TE, Riordan NH. Allogeneic endometrial regenerative cells: an "Off the shelf solution" for critical limb ischemia? *J Transl Med*. 2008 Aug 19;6:45. Review.
42. Grzegorz Basak, **Ewa Carrier** et al. Multiple Myeloma stem cell niche. Review. *Current Curr Pharm Biotechnol*. 2009 Apr;10(3):345-6.

43. Grzegorz Basak, **Ewa Carrier** et al. Multiple Myeloma stem cells. Review. Current Pharmaceutical Design, Curr Pharm Biotechnol. 2009 Apr;10(3):345-6.
44. Han Xiaodi; Han, Xiaodi; Xiaolong Meng; Neil Riordan; Minev, Boris; **Carrier, Ewa**; Amit Patel; Murphy, Michael P; Wei-Ping Min "Inhibition of Intracranial Glioma Growth by Endometrial Regenerative Cells," Cell Cycle. 2009 Feb 15;8(4):606-10. Epub 2009 Mar 2.
45. Xiufen Zheng; Costin Vladau; Xusheng Zhang; Motohiko Suzuki; Thomas E Ichim; Zhu-Xu Zhang; Mu Li; **Carrier, Ewa**; Bertha Barcia; Anthony M Jevnikar A novel in vivo siRNA delivery system specifically targeting dendritic cells and silencing CD40 genes for immunomodulation. Blood. 2009 Jan 22. [Epub ahead of print]
46. Grzegorz Wladyslaw Basak, Satoshi Yasykawa, Andre Alfaro, Anand S Srivastava, Wei-Ping Min, Boris Minev, **Ewa Carrier**; Human Embryonic Stem Cell Hemangioblast express HLA-antigens. Journal of Ttranslational Medicine, 2009, in press.

BOOKS AND BOOK CHAPTERS/REVIEW PAPERS

1. **Carrier, E.** *In Utero* Transplantation. Textbook "Hematopoietic Stem Cell Therapy, Eds. Ball ED, Lister J and Law P. W.B. Saunders Publishing Company, Philadelphia, PA, 2000, Chap. 19, pp. 217-224.
2. **Carrier, E.** *Murine Model of In Utero Transplantation*. Eds. Ho AD, Marcel and Dekker Publishers, Inc., New York, NY, pp. 195-222, 2000.
3. **Carrier, E.** Heiju Ledingham: 100 Questions and Answers about Bone Marrow and Stem Cell Transplantation. Jones & Bartlett Publishers, Incorporated. July 2003.
4. **Carrier, E.** and Richard Burt. Mobilization and conditioning regimens in stem cell transplant for autoimmune diseases. Landes Bioscience. Book chapter in book edited by Burt and Marmont: "Stem cell transplant for autoimmune diseases".
5. Ball, E.D., Bashey, A., **Carrier, E.** Castro, J.E., Holman, P. and Lane, T.: Current Status of Bone Marrow Transplantation for Treatment of Cancer. In Cancer Growth and Progression, 2nd Edition, Vol. 10, Cancer Management in Man: Biological Response Modifiers, Chemotherapy, Antibiotics, Hyperthermia, Supporting Measures Neoplastic Prevention. [Volume Editor: Minev, B., Series Editor: Kaiser, H.E.]
6. Thomas E Ichim, Neil H Riordan, Andre Alfaro, Samantha Halligan, Boris Minev, and **Ewa Carrier** Multiple Myeloma Stem Cells: Therapeutic Implications of a Paradigm Shift. In: Cancer Management in Man: Chemotherapy, Biological Therapy, Hyperthermia and Supporting Measures. Minev B. Volume Editor, Volume 10, Cancer Growth and Progression Book Series, Springer, In Press, 2009
7. Grzegorz Wladyslaw Basak, Anand s Srivastava, Ewa Carrier. Multiple Myeloma Bone Marrow Niche. Current Pharamceutical design, 2009.
8. Grzegorz Wladyslaw Basak, Anand s Srivastava, Ewa Carrier. Multiple Myeloma Stem Cells. Current Pharamceutical design, 2009.

PRESENTED AND PUBLISHED ABSTRACTS:

1. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. *In utero* engraftment of allogeneic mismatched murine fetal liver cells in fetal mice. Blood 82:299a, 1993.
2. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. *In utero* transplantation of allogeneic fetal liver cells and tolerance induction in a mouse model. Blood 84(10): 497a, 1994.

3. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. *In utero* engraftment of allogeneic bone marrow in non-defective mice- effects of postnatal injections of stem cell factor and G-CSF. Blood 86(10): 114a, 1995.
4. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. Engraftment and tolerance induction following *in utero* transplantation of C-KIT⁺ cells in a mouse model. Blood 90(10): 312b, 1997.
5. **Carrier, E.** Lee, TH, Busch, M and Cowan, MJ. Tolerance induction following *in utero* transplant as tested by postnatal donor transplant. Blood 90(10): 363a, 1997.
6. **Carrier, E.** Lee, TH, Busch, M, Cowan, MJ, and Ho, AD. Engraftment and tolerance induction following *in utero* transplant with purified sources of stem cells. J Hematother 7(3): 269, 1998.
7. Donahue J, Lee TH, Busch M, **Carrier E.** Tolerance induction following *in utero* transplantation. 6th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, CA April 1998
8. **Carrier E.** Engraftment and tolerance induction following *in utero* transplantation of C-kit⁺ cells in a mouse model. 6th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, CA April 1998, pp. 33
9. Donahue J, Kuypers F, Witkowska E, Cowan M, **Carrier E.** Engraftment and tolerance following *in utero* transplantation in b-thalassemic mice. Blood 92(10) (Suppl 1): 286b (4232), 1998.
10. Donahue J, Lee TM, Busch M, Cowan M, **Carrier E.** Tolerance following *in utero* transplantation with c-kit⁺ cells. Blood 92(10) (Suppl 1): 286b (4233), 1998.
11. Bashey A, Corringham S, Holman P, **Carrier E.** Ward D, Ho AD, Lane TA, Law P. Second mobilization in patients with inadequate peripheral blood progenitor cell collections: The role of hematopoietic growth factor combinations. Blood 92(10)(Suppl 1): 97b (4280), 1998.
12. Holman PR, Bashey A, Kormanik P, Hougham NM, **Carrier E.** Ball E. Non-myeloablative stem cell transplantation in combination with Rituximab may be an effective strategy for the treatment of refractory chronic lymphocytic leukemia. 7th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, CA, May 6-8, 1999.
13. Donahue J, Lee TH, Busch MP, Gilpin E, **Carrier E.** Evidence of immunity following *in utero* transplantation with c-kit positive. 7th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, CA, May 6-8, 1999.
14. Law P, Bashey A, Ball ED, Ho AD, Holman P, **Carrier E.** Mullen M, Carlos R, Ada O Young DJ, Lane TA. Collection of allogeneic peripheral blood progenitor cell (Allo PBPC): comparison of good and bad mobilizers. Blood 94(10):137a, 1999.
15. Donahue J, Lee TM, Busch M, **Carrier E.** Microchimerism sustains active postnatal immunity in mice primed *in utero* with allogeneic cells. Blood 94(10): 318a, 1999.
16. Bashey A, Corringham S, Fields KF, Holman P, **Carrier E.** Lane TA, Ball ED, Smilee RC, Janseen WE, Law P. Use of concurrent GM-CSF and G-CSF administration to re-mobilize patients who fail initial mobilization: results on twenty-three patients from two centers. Blood 94(10): 327a, 1999.
17. Bashey A, Corringham S, Gilpin E, Holman P, **Carrier E.** Lane TA, Ball ED, Law P. Efficient and predictable mobilization of peripheral blood progenitor cells (PRPC) using an intermediate dose of cyclophosphamide (Cy) followed by sequential GM-CSF and G-CSF. Blood 94(10):329a, 1999.

18. Holman PR, Bashey A, Corringham SM, **Carrier E**, Quigley JO, Ball ED. High dose Topotecan plus Melphalan: a safe and tolerable preparative regimen for autologous transplantation in multiple myeloma. Blood 94(10):578a, 1999.
19. Donahue J, Gilpin E, Lee TM, Busch M, Zanetti M, **Carrier E**. Lack of tolerance and evidence of immunity following *in utero* transplantation with c-kit positive cells. Blood 94(10):663a, 1999.
20. Donahue J, Kuypers E, Witkowska E, **Carrier E**. Improvement in hematological parameters with low-level chimerism following *in utero* transplantation in a murine model of α -thalassemia. Blood 94(10):664a, 1999.
21. Chen J, Bashey A, Holman P, **Carrier E**, Law P, Ball ED. A phase I dose escalating study of infusion of a bispecific antibody (BaAb) for relapsed/refractory acute myeloid leukemia (AML). Blood 94(10):227b, 1999.
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68. Anand S Srivastava, Steve Shenouda, **Ewa Carrier**. Migration and Proliferation of embryonic stem cells in the damaged murine brain. 9th International Conference on Neural Transplantation and repair. Taipei, Taiwan, June 2005. Poster presentation.
69. Anand S Srivastava, Rangrath Mishra, **Ewa Carrier**. TPO enhances hematopoietic differentiation of ES cells. International Society for Stem Cell Research, Toronto, Canada, July 2006.
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73. Babak Esmaeli-Azad, Anad S Srivastava, Luman Wing and **Ewa Carrier**: Development of artificial hematopoietic stem cell niche". Keystone Stem Cell Symposium, March 2-7, 2007. Poster presentation.
74. Babak Esmaeli-Azad, Anad S Srivastava, Luman Wing and **Ewa Carrier**: Development of artificial hematopoietic stem cell niche using Biomaterial Arrays. 14th Annual Recent Advances in Stem Cell Transplantation, Heidelberg, Germany, 2007.
75. Babak Esmaeli-Azad, Cybele Frederico, Geraldo Martinez, Luman Wing and **Ewa Carrier**: Development of Hematopoietic Artificial Stem Cell Niche *in vitro* using Biomaterial Microarrays. International Society for Stem Cell research, Cairns, Australia, June 15-18, 2007. Poster presentation.
76. Lane TA, Bashey A. Holman P, **Carrier E**, Castro J, Ball ED: Clinical Efficacy of Cryopreserved Donor Lymphocytes for Infusion. 07-A-255-ISCT, ISCT Sydney, Australia, June 24-27, 2007.

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79. Elena Nedelcu, Anand Srivastava, Gustavo Assatourian, Nissi Varki, and **Ewa Carrier**. Embryonic Stem Cells Transplanted In Utero Survive and Produce Teratocarcinomas in a Murine Model. Blood (ASH Annual Meeting Abstracts), Nov 2007; **110**: 4874.
80. Elena Nedelcu, Mohamed Moustafa, Anand Srivastava, Jody Donahue, and **Ewa Carrier**. Fetal Immune Responses Post In Utero Transplantation of Embryonic Stem Cells, Bone Marrow and Fetal Liver Hematopoietic Stem Cells. Blood (ASH Annual Meeting Abstracts), Nov 2007; **110**: 4058.
81. Grzegorz Wladyslaw Basak, MD, PhD, Satoshi Yasukawa, MD, Boris Minev, MD and **Ewa Carrier**, MD. Human Embryonic Stem Cells-Derived Hemangioblasts Express HLA Antigens and Genes Related to Hematopoeisis and Endopoeisis. Blood (Ash Annual Meeting Abstracts), Nov 16 2008.
82. Grzegorz Wladyslaw Basak, MD, PhD, Satoshi Yasukawa, MD, Boris Minev, MD and **Ewa Carrier**, MD. Human Embryonic Stem Cells-Derived Blast cells Express HLA Antigens and Genes Related to Hematopoeisis and Endopoeisis. EBMT (European Bone Marrow Transplant) 2009 proceedings.

INVITED PRESENTATIONS & PAPERS:

1. 6th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, CA. 04/98. Tolerance induction following *in utero* transplantation.
2. Medical Grand Rounds. UCSD Department of Medicine. 04/98. *In utero* transplantation.
3. 4th Meeting of International Society for Hematotherapy and Graft Engineering, Baltimore, MD. 06/98. Engraftment and tolerance induction following *in utero* transplantation with purified sources of stem cells.
4. Advances in Stem Cell and Gene Therapy for Genetic Diseases. 09/98. Reno, Nevada. Tolerance following *in utero* transplantation with c-kit⁺ stem cells.
5. Tandem BMT Meetings, Keystone, CO. 03/4-6/99. Evidence of immunity following *in utero* transplantation with c-kit⁺ cells.
6. 7th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, CA. 05/6-8/99. Evidence of immunity following *in utero* transplantation with c-kit⁺ cells.
7. 5th International Meeting of the Correction of Genetic Diseases by Transplantation (COGENT) Society, Minneapolis, MN. 06/18-20/99. *In Utero* Transplantation - Tolerance or Immunity?
8. 41st Annual Meeting of the American Society of Hematology (ASH), New Orleans, LA. 06/99. Lack of Tolerance and Evidence of Immunity Following *In Utero* Transplantation With C-Kit Positive Cells.
9. 41st Annual Meeting of the American Society of Hematology (ASH), New Orleans, LA. 06/99. Improvement in Hematological Parameters With Low-Level Chimerism Following *In Utero* Transplantation in a Murine Model of β -Thalassemia.

10. Marrow Transplantation in Children: Current Results and Controversies, Hilton Head Island, SC. 12/00. Donahue J, Croft M., Lee TH, Busch M, **Carrier E**. Microchimerism Sustains Immunity to Allogeneic Cells Post *In Utero* Transplantation.
11. 8th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, Heidelberg, Germany. 6/00. **Carrier E**. Tolerance and improvement in hematological parameters following *in utero* transplantation in β -thalassemic mice.
12. International Society for Hematotherapy and Graft Engineering, San Diego, CA. 06/15/00-6/18/00. **Carrier E**. Improvement in Hematological Parameters Following *In Utero* Transplantation in β -thalassemic Mice.
13. International Society for Hematotherapy and Graft Engineering, San Diego, CA. 06/15/00-6/18/00. **Carrier E**. Microchimerism Sustains Immunity to Allogeneic Cells Post *In Utero* Transplantation.
14. VI International Conference on In Utero Transplantation, Venice, Italy, 10/23-10/24, 2000. **Carrier E**. *Improvement in hematological parameters following in utero transplantation in β -thalassemic mice.*
15. 9th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, San Diego, California. 03/29-31/01. *In Utero transplantation as a model of post-transplantation tolerance/immunity.*
16. American Society of Hematology 2000, San Francisco. (poster) Donahue J, Gilpin E, Lee T-H, Busch MP, Croft M, **Carrier E**. Microchimerism does not induce tolerance and sustains immunity after *in utero* transplantation.
17. International Society of Experimental Hematology, August 2001, Tokyo, Japan. Sefriouri, H., Donahue, J., Srivastava, A., Pillai, G.R., Young, D., and **Carrier, E**. Immunity without Micro-chimerism after *In Utero* Transplantation of Hematopoietic Stem Cells.
18. Fifth International Symposium on In Utero Stem Cell Transplantation and Gene Therapy, October, 2001, Reno, NV. **Carrier, Ewa**. Chimerism and Tolerance Following *In Utero* Transplantation with Embryonic, Fetal and Adult Sources of Stem Cells.
19. Tandem BMT meetings, IBMTR/AMBT, February, 2002. Orlando, FL. **Carrier, Ewa**: Chimerism and tolerance following in utero transplantation with embryonal, fetal and adult sources of stem cells.
20. Tenth International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, Heidelberg, Germany, April 27-29, 2002. **Carrier, Ewa**: Chimerism and tolerance following *in utero* transplantation with embryonal, fetal and adult sources of stem cells.
21. 18th International Congress of Clinical Chemistry and Laboratory Medicine, Kyoto, Japan, October 20-25, 2002. Srivastava AS and **Carrier E**: Distribution and Stability of T7 phage in the mouse after intravenous administration.
22. American Society of Gene Therapy, Boston, MA, Srivastava AS, Kaido, T. and **Carrier, E**.: Immunological factors that affect the *in vivo* fate of T7 phage in the mouse.
23. American Society of Gene Therapy, Boston, MA, Srivastava AS, Nedelcu, E and **Carrier E**: Engraftment of murine embryonic stem cells after *in utero* transplantation.
24. American Assn. Of Immunologists (AAI) annual meeting, April 20-24, 2002, New Orleans, LA, Rizzi M, Kaido T, Gerloni M, Schuler K, Srivastava, AS, **Carrier E** and Zanetti M: Neonatal T cell immunity by *in utero* immunization.
25. The Science of Whole Person Healing Conference, March 28-30, 2003, Bethesda, MD, Zhongling Feng and **Ewa Carrier**: Cellular Therapy: A Future Medicine.
26. 11th International Symposium on Recent Advances in Stem Cell Transplantation, San Diego, CA May 8-10, 2003.

- Lane TA, Bashey A, **Carrier E**, Holman P, Ward D, Mullen M, Ada O, Ball E.: Utility of Mid-Run Apheresis CD34 Values in Managing Apheresis Collection of Mobilized Hematopoietic Progenitor Cells (HPC).
27. 11th International Symposium on Recent Advances in Stem Cell Transplantation, San Diego, CA May 8-10, 2003. Shenouda S, Srivastava A, **Carrier E**.: *In vivo* survival of Hematopoietic Stem cells in mouse brain.
 28. 11th International Symposium on Recent Advances in Stem Cell Transplantation, San Diego, CA May 8-10, 2003. Srivastava A, **Carrier E**.: Distribution and Stability of T7 Phage in Mouse.
 29. 11th International Symposium on Recent Advances in Stem Cell Transplantation, San Diego, CA May 8-10, 2003. Feng Z, **Carrier E**.: *In vivo* Differentiation of Embryonic Stem Cells
 30. 11th International Symposium on Recent Advances in Stem Cell Transplantation, San Diego, CA May 8-10, 2003. Moustafa M, Srivastava A, Nedelcu E, El-Sadaani M, Minev B, **Carrier E**.: Chimerism and tolerance post *in utero* transplantation with ontogenically different sources of stem cells.
 31. 32nd Annual Meeting of the International Society for Experimental Hematology, Paris, France July 5-8, 2003. Moustafa M, Srivastava A, Nedelcu E, El-Sadaani M, Minev B, **Carrier E**.
 32. Chimerism and tolerance post *in utero* transplantation with ontogenically different sources of stem cells.
 33. 32nd Annual Meeting of the International Society for Experimental Hematology, Paris, France, July 5-8, 2003. Feng Z, Carrier E.: *In vivo* Differentiation of Embryonic Stem Cells,
 34. American Society for Blood and Marrow Transplantation, Orlando, FL, February 13, 2004, Moustafa M, Srivastava A, Nedelcu E, El-Sadaani M, Minev B, Carrier E.:. Chimerism and tolerance post in utero transplantation with ontogenically different sources of stem cells
 35. American Society for Blood and Marrow Transplantation, Orlando, FL, February 13, 2004. Wang, E., Chen, Y., Castro, J., Bashey, A., Holman, P., Corringham, S., Lane, T., Ball, E., Carrier, E, High-Dose CEB versus beam with autologous stem cell transplant in lymphoma.
 36. 12th Annual International Symposium of Recent Advances in Stem Cell Transplantation, Heidelberg, Germany, April 22-24th, 2004, Zhongling, F., Carrier, E: A role of Wnt signaling pathway in the hematopoietic differentiation of murine embryonic stem cells,.
 37. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Lane, T., Bashey, A., Carrier, E., Holman, P., Mullen, M., Ball, E., Poster Presentation: Measurement of CD34 Cells on the Leukapheresis Product (LP) at the Mid Point of LP Versus on Peripheral Blood Prior to LP to predict the Amount of CD34 cells collected during LP
 38. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Bashey, A., Liu, L., Ji, M., Ihasz, A., Corrington, S., Holman, P., Carrier, E., Castro, J., O'Reilly, E., Law, P., Holman, Ball, E., Lane, T., Poster Presentation: Intermediate dose Cyclophosphamide followed by sequential GM-CSF and G-CSF Produces Efficient and Predictable PBPC Mobilization for Autografting: A single center study of one hundred and thirty-five patients.
 39. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Bashey, A., Liu, L., Lane, T., Ihasz, Bridget, M., A., Corringham, S., Carrier, E., Holman, P., Castro, J., Ball, E., Poster Presentation: Use of non-anthracycline salvage regimen as induction therapy for untreated high-risk AML is effective and avoids the toxicity associated with sequential induction regimens.
 39. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Moustafa M, Srivastava A, Nedelcu E, Shenouda S, Minev B, Carrier E: Chimerism and tolerance after *in utero* transplantation of ES cells.

40. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Holman, P., Medina, B., Corringham, S., Bashey, A., Carrier, E., Mu, X., Gold, D., Ball, E., Poster Presentation: Early and robust immune responses to idiotype (Id) Vaccination occur in mantle cell lymphoma (MCL) and Indolent Lymphoma (IL) Patients following autologous stem cell transplantation (ASTC).
41. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Zhongling, F., Carrier, E: A role of Wnt signaling pathway in the hematopoietic differentiation of murine embryonic stem cells.
42. 45th Annual American Society of Hematology Meeting, San Diego, CA, December 6-9th, 2003, Wang, E., Chen, Y., Castro, J., Bashey, A., Holman, P., Corringham, S., Lane, T., Ball, E., Carrier, E, High-Dose CEB versus beam with autologous stem cell transplant in lymphoma.
43. (AACR) American Association for Cancer Research Annual Meeting, Orlando, FL, Mar. 26-29th, 2004. Zhongling, F., Carrier, E: A role of Wnt signaling pathway in the hematopoietic differentiation of murine embryonic stem cells.
44. The American Society of Gene Therapy's 7th Annual Meeting, Minneapolis, MN, June 2004, Srivastava, A., Shenouda, S., Moustafa, M., Carrier, E., Increased expression of OCT4, SOX2, and FGF4 genes following injection of embryonic stem cell into damaged murine brain.
45. 2nd Annual Meeting of the International Society for Stem Research, Boston MA, June 10-13th, 2004, Feng, Z., **Carrier, E.** A Role of WNT Signaling pathway in the Hematopoietic Differentiation of Murine Embryonic Stem Cells.
46. 2nd Annual Meeting of the International Society for Stem Research, Boston MA, June 10-13th, 2004. Moustafa M, Srivastava A, Nedelcu E, El-Sadaani M, Minev B, **Carrier E**: Chimerism and tolerance post in utero transplantation with ontogenically different sources of stem cells.
47. 33rd Annual Meeting of the International Society for Experimental Hematology, New Orleans, LA, July 17-20,2004, Feng, Z., **Carrier, E.**, A Role of WNT Signaling pathway in the Hematopoietic Differentiation of Murine Embryonic Stem Cells.
48. (AACR) American Association for Cancer Research Annual Meeting, Orlando, FL, Mar. 26-29th, 2004. Zhongling, F., **Carrier, E**: A role of Wnt signaling pathway in the hematopoietic differentiation of murine embryonic stem cells.
49. The American Society of Gene Therapy's 7th Annual Meeting, Minneapolis, MN, June 2004, Srivastava, A., Shenouda, S., Moustafa, M., **Carrier, E.**, Increased expression of OCT4, SOX2, and FGF4 genes following injection of embryonic stem cell into damaged murine brain.
50. 2nd Annual Meeting of the International Society for Stem Research, Boston MA, June 10-13th, 2004, Feng, Z., **Carrier, E.** A Role of WNT Signaling pathway in the Hematopoietic Differentiation of Murine Embryonic Stem Cells.
51. 33rd Annual Meeting of the International Society for Experimental Hematology, New Orleans, LA, July 17-20,2004, Feng, Z., **Carrier, E.**, A Role of WNT Signaling pathway in the Hematopoietic Differentiation of Murine Embryonic Stem Cells.
52. 2005 Tandem BMT meetings, February 10-14, 2005, Keystone Colorado, Feng Z, Arrunategui-Correa V, Kim HS, **Carrier E**. Repair of Crohn's Disease with embryonic stem cells.
53. 9th International Conference on Neural Transplantation and repair. Damaged murine brain induces ES cells into migration and proliferation. Taipei, Taiwan, June 2005. Travel award.
54. International Conference in Stem Cells and Bioengineering, Coronado, California, January 21-24, 2008. Babak Esmaeli-Azad¹, Shanendoah Hawkins, Geraldo Martinez¹, Satoshi Yasukawa², and **Ewa Carrier²**, DNAmicroarray, Inc.,

Department of Stem Cell Biology, San Diego, CA , 2UCSD, Department of Medicine and Pediatrics, Moores Cancer Center, La Jolla, CA 92093. Artificial hematopoietic stem cell niche sustains growth and differentiation of human ES-derived early hemangioblast.

55. 1st International Conference on Drug Discovery, Dubai, UAE, Feb 3-8, 2008. Babak Esmaeli-Azad¹, Anand S Srivastava³, Geraldo Martinez¹, Satoshi Yasukawa², Grzegorz Basak² and **Ewa Carrier**²¹ DNAmicroarray, Inc., Department of NeuroSciences, UC Irvine³, Department of Stem Cell Biology, San Diego, CA , ²UCSD, Department of Medicine and Pediatrics, Moores Cancer Center, La Jolla, CA 92093. Artificial hematopoietic stem cell niche sustains growth and differentiation of human ES-derived early hematopoietic progenitors.
56. 2008 Tandem BMT meetings, Babak Esmaeli-Azad¹, Anand S Srivastava³, Geraldo Martinez¹, Satoshi Yasukawa², Grzegorz Basak² and **Ewa Carrier**²¹ Artificial hematopoietic stem cell niche sustains growth and differentiation of human ES-derived early hematopoietic progenitors. Poster presentation.
57. 1st International Conference on Stem Cells, July 2008, Kerala India. **Ewa Carrier**. Creation of hematopoietic progenitors and clinical applications of human ES cells. **Plenary talk**.
58. 2008 American Society of Hematology meeting. Grzegorz Wladyslaw Basak, MD, PhD, Satoshi Yasukawa, MD, Boris Minev, MD and **Ewa Carrier**, MD Human Embryonic Stem Cells-Derived Hemangioblasts Express HLA Antigens and Genes Related to Hematopoiesis and Endopoiesis. Poster presentation.
59. 2009 Tandem BMT meetings. Grzegorz Wladyslaw Basak, MD, PhD, Satoshi Yasukawa, MD, Boris Minev, MD and **Ewa Carrier**, MD Human Embryonic Stem Cells-Derived Hemangioblasts Express HLA Antigens. Poster presentation.
60. 1st conference on Stem Cells and Regenerative Medicine, Leipzig, Germany, invited to give plenary talk on the use of ERC (endometrial regenerative cells) in clinical medicine (heart and limb ischemia). October 09 (invited, pending attendance)
61. 1st international conference on stem cells and regenerative medicine, Sao Palo, Brasil, invited to give plenary talk on clinical applications of ERC and human embryonic stem cells, October 09 (invited, pending attendance).
62. 2nd national conference in regenerative medicine, Shanghai, China-September 09, invited, talk on generation of red cells and hematopoietic progenitors from human ES cells, invited, pending attendance.

EDUCATION/ TEACHING

Developed elective clerkship for 4th year medical students in stem cells and marrow transplantation. (Med 454)

Heme/Onc Fellowship Teaching Conferences

Med 401 (elective outpatient clerkship for 3rd year medical students)

Med 454 (elective inpatient clerkship for 4th year medical students)

SOM 214 course (hematology course for 4th year medical students)

Med 260 course (teaching on modern techniques in biomedical research)

Heme/Onc rounds for pediatric residents

PL-2 rounds for Pediatric residents

Neonatal Hematology course (Children's Hospital)

OSCE clinical exam for 2nd year medical students

Faculty Mentor Program for undergraduate students

UCSD Howard Hughes teaching courses for undergraduate students

Postgraduate Researchers mentoring
Pediatric Residents launch teaching series (Children's Hospital)
PhD mentorship (UCSD Bioengineering at UCSD, University of Alexandria, Cairo, Egypt)

UNIVERSITY/PUBLIC SERVICE

Appointed 4-year term by UC Vice President for Research and Graduate Studies as a member of CRCC (Cancer Research Coordinating Committee). *The Committee distributes seed money for cancer research, communicates to the campuses research findings and advices UC President on research policies.*

Maximus Federal Services “helping government serve the people” 2007-present (medical advisory board)

MSTP Program Admissions Subcommittee to RAC (MD/PhD Program admission committee) 2006-present
DOMCAP -07/04-06/08 (finished 3 year term)

Open house/lecture for Multiple Myeloma patients organized by UCSD Cancer Center and Multiple Myeloma support group (2x)
Supported Multiple Myeloma Support Group with talks related to MM

Lecture for Lymphoma/Leukemia Society (2x)

Developed monthly **BMT Educational Conferences**

Developed **Senior Elective Clerkship Med 454** for SOM

Worked with students from UCSD Presuss School on Programs related to stem cells

Initiated **M/M Conferences** at BMT division/Children's Hospital at UCSD

Assisted **UCSD Health Science Communication** in educating community on stem cells

Member of the **Council of Healthcare Advisors**

Member of the **Medical Review of America**

CCN Managed Care Specialty Advisor

NIH grant reviewer

Editor of a book aimed at educating the public on stem cells (Ewa Carrier, Heiju Ledingham: 100 Questions and Answers about Bone Marrow and Stem Cell Transplantation. Jones & Bartlett Publishers, Inc.

UCSD MDTV-edited 2 programs aimed at educating community on stem cells

Introduced and helped to established **Photophoresis** Program at UCSD

Represented UCSD at meetings organized by **Swedish Embassy/Nature** on biotechnology

Expert witness-based on her testimony the standard of care for prenatal diagnosis at Sharp/Health Care system was changed

Assisted **International Council of San Diego** and the US Department of the State's International Program

Gave series of lectures to **Planned Parenthood** Society, **AWIS** (Association of Women in Science) and Rancho Bernardo Community Educational Center.

NIH Working Group, Regenerative Medicine Roadmap Development 2003

Teaching conference for transplant physicians in Mexico 1998

ADVISORY BOARDS

America Stem Cells
Paul Burkett Foundation
Medistem
LifeMax
Orchrist
Millenium
Global Institute of Stem Cell Therapy and Research

REVIEWER IN PEER REVIEW JOURNALS

Blood
Transplantation
Bone Marrow Transplantation
Haematologica
Experimental Hematology
Cell Transplantation

GRANTS REVIEWER

GCRC-UC President Cancer Research Coordinating Committee

VA Merit Awards
NIH PO Awards
Moores UCSD Cancer Research Award

SPEAKER FOR

Millenium
Novartis
Celgene

INTERNATIONAL DEVELOPMENT

_____ Assisted government of India (state of Gujarat) in developing clinical programs related to adult stem cells
_____ Assisted physicians in Iquitos Peru in research related o cancer
_____ Developed collaboration with scientific attaché to the Embassy of Poland in Washington to develop exchange research and clinical programs in regenerative medicine

RESEARCH GRANTS:

Active/Awarded:

- America Stem Cells (ASC). SBIR grant, 2008-2009. The role of Engraftin and Engrafta in homing of cord blood stem cells. Contract agreement.
Orchrist Pharmaceuticals. The role of Hyaluronic Acid (HA) in homing of cord blood cells. 2009. \$100,000.
Millenium/Tekada Research grant. Molecular mechanisms of Velcade resistance. \$150,000.
- Broad Medical Research Program, 9/1/04-8/31/05, Repair of Crohn's Disease with Stem Cells, \$110,000/yr; PI- Ewa Carrier
 - NIH/NIDDK R01 D57524-03 (09/15/99-2/28/05). Mixed Chimerism Following Prenatal Tolerance Induction. \$225,000/yr; PI – Ewa Carrier

- Ronald McDonald House Charities Medical Grant (07/01/98-01/31/05). Lentiviral Gene Transfer in β -Thalassemic Mice. \$118,490/yr.; PI – Ewa Carrier
- NIH 5 K08 HL03602-04 (01/01/97-12/31/02). *In utero* transplantation of stem cell in β -thalassemic mice. \$102,750/year; PI – Ewa Carrier, Years – 5; Start Date – 01/01/97
- Academic Senate Committee on Research Grant (05/99-06/00).
- Academic Senate Committee on Research Grant (07/98-06/99).
- Cooley's Anemia Foundation Research Grant (07/93-06/97). *In utero* transplantation in a mouse model. \$50,000
- McCormack Foundation Grant, Stanford University School of Medicine (07/86-06/87).

AWARDS

Cooley's Anemia Foundation award 7/93-6/97;

Awarded by the Medical School and graduated from National Center in Leadership in Academic Medicine (NCLAM), 11/99.

The Stowe Foundation-Stem Cell research Award, 02/07.

8th Royan International Research Award for work titled: "Transplanted Embryonic Stem Cells Successfully Survive, Proliferate and Migrate to Damaged regions of the Mouse Brain".

- America's Top Pediatricians, Consumer's Research Council of America, Washington, DC, 2004-2005
- Graduated from the National Center of Leadership in Academic Medicine, University of California, San Diego. (05/99-11/99).
- Molecular Biology Workshop sponsored by National Cancer Institute and American Association for Cancer Research, Aspen, CO, 1993.
- Visiting Scholar in Medical School of Seged, Hungary, 1979
- Visiting Scholar in Medical School of Florence, Italy, 1980
- International Students Exchange Program, Manchester, England, UK, 1981.
- Received scholastic award yearly. Granted free admittance to all Polish and Slavic Universities and Medical Schools in 1976.
- Graduated with honors, 1982, Wroclaw University School of Medicine, Wroclaw, Poland

MEMBERSHIPS

American Academy of Pediatrics.

American Medical Association.

American Society of Hematology.

American Society of Clinical Oncology.

American Society for Blood and Marrow Transplantation

International Society for Stem Cell Research

International Society for Multiple Myeloma

LANGUAGES

English, French, Russian, Polish, Latin, Spanish