

## **CURRICULUM VITAE**

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### **Education:**

2000 **M.S.** Jagiellonian University, Cracow, Poland, Molecular Biology - *summa cum laude*  
2004 **Ph.D.** Faculty of Biotechnology, Jagiellonian University, Cracow, Poland, Biochemistry - based on the dissertation "New insight on the pool of bone marrow stem cells" - *summa cum laude*  
2014 **D.Sc.** Pomeranian Medical University, Szczecin, Poland – "Identification and molecular characterization of pluripotent VSELs residing in murine bone marrow"

### **Postgraduate Training and Fellowship Appointments:**

1998-2000 Research Training, Department of Cell Biology, Faculty of Biotechnology, Jagiellonian University, Poland  
2000-2002 Research Training, Laboratory of Cell and Tissue Engineering, Jagiellonian University, Poland  
2002-2004 Research Assistant, Stem Cell Biology Program, James Graham Brown Cancer Center, University of Louisville, KY  
2004-2007 Post-Doctoral Fellowship, Stem Cell Biology Program, James Graham Brown Cancer Center, University of Louisville, KY

### **Faculty Appointments:**

2007- Present Assistant Professor, Stem Cell Institute, James Graham Brown Cancer Center, University of Louisville, KY

### **Awards, Honors and Membership in Honorary Societies**

2000 M.S., *summa cum laude*  
2004 Ph.D., *summa cum laude*

### **Memberships in Professional and Scientific Societies**

American Society of Hematology  
American Society for Cancer Research

### **Editorial Positions**

Editor for *Journal of Cancer Stem Cell Research*  
Reviewer for: *Experimental Cell Research, Experimental Hematology, Stem Cells, Leukemia*

## **INVITED LECTURES**

Sept 16, 2005. Bone marrow derived nonhematopoietic stem cells. IX Congress on Cell Biology, Lodz, Poland.

June 22, 2005. Bone marrow as a home of heterogenous populations of nonhematopoietic stem cells – an alternative explanation of “stem cell plasticity”. Analytical cytometry III: Červenohorské sedlo, Czech Republic.

Sept 8, 2006. A population of very small embryonic like (VSEL) stem cells identified in adult bone marrow – Novel insight into stem cells plasticity, regeneration and cancer development. EHA Scientific Workshop on Biology and Clinical Application of Mesenchymal Stem Cells, Mandelieu, France.

June 8, 2007. A Hypothesis for an Embryonic Origin of Pluripotent OCT- 4+ Stem Cells in Adult Bone Marrow and Other Tissues. 4th IRCC International Cancer Conference, Torino, Italy.

Sept 20, 2007. A hypothesis for an embryonic origin of pluripotent Oct-4 stem cells in adult bone marrow and other tissues. Joint conference of the Transplantation Society, International Pancreas and Islet Transpnat Association and International Xenotransplantation Association, Plenary Session, Minneapolis. USA

Oct 18, 2007. Bone marrow derived stem cells – our key to longevity. Kentucky Translational Research Forum, Louisville, USA.

August 16, 2008. Very Small Embryonic like (VSEL) Stem Cells – an update. Research Seminar Series at Molecular Target Group, James Graham Brown Cancer Center, University of Louisville, USA.

Sept 8, 2008. The Unique Pattern of Somatic Imprint in Oct-4+ Very Small Embryonic Like (VSEL) Stem Cells Isolated from Adult Tissues Further Supports Both Their Epiblast/Germ Line Origin and Explains Quiescent Status: Potential Modification of Somatic Imprint as a Key to Longevity? XLIII Congress on Cell Biology and Biochemistry, Olsztyn, Poland.

Oct 4, 2008. VSEL stem cells newly discovered in bone marrow and mobilized peripheral blood. AABB Annual Meeting & TXPO, Montreal, Canada.

Oct 18, 2008. Adult bone marrow- and cord blood-derived Very Small Embryonic like (VSEL) Stem Cell – our key to longevity. Eurobiotech – Central European Congress of Life Sciences, Cracow, Poland.

March 6, 2009. Mechanisms that govern pluripotent character and quiescent status of Very Small Embryonic/Epiblast like Stem Cells (VSELS). DOVS Research Seminar Series at the Kentucky Lions Eye Center, University of Louisville, USA.

March 5, 2010. Regenerative medicine and search for almighty stem cell. DOVS Research Seminar Series at the Kentucky Lions Eye Center, University of Louisville, USA.

September 18, 2010. Very Small Embryonic/Epiblast like Stem Cells in adult tissues – challenge for regenerative medicine. International Symposium Primo-Vascular System, Seoul National University, Korea.

February 15, 2011. Regenerative medicine and search for almighty stem cell. Institute for Cellular Therapeutics, Louisville, University of Louisville, USA.

April 22, 2011. Paracrine and Microvesicles related effects of Very Small Embryonic like Stem Cells. International Symposium of Cellular Vesicles: Determination of Cell Fate, Providence, RI, USA.

March 2, 2012. A novel insight into aging: are there pluripotent very small embryonic-like stem cells (VSELS) in adult tissues overtime depleted in an Igf-1-dependent manner? DOVS Research Seminar Series at the Kentucky Lions Eye Center, University of Louisville, USA.

March 13, 2012. Novel view on stem cell compartment and aging: are there pluripotent very small embryonic-like stem cells (VSELS) in adult tissues overtime depleted in an Igf-1-dependent manner? Birth Defects Center COBRE seminar series. University of Louisville, USA.

September 14, 2012. Rhabdomyosarcoma Cells “on the run”. Fifth International MIF Symposium, Louisville, USA.

June 1, 2013. Aging – when VSELS meet IGF-1. 2nd Baltic Stem Cell Meeting, Szczecin, Poland.

June 23, 2013. Novel therapeutic approaches in regenerative medicine – adult tissue-derived Very Small Embryonic like Stem Cells and harnessing paracrine signals of adult stem cells. eCM XIV: Stem & Progenitor Cells for Musculoskeletal Regeneration, Davos, Switzerland.

December 13, 2013. VSELS and their potential role in aging. Biological and clinical aspects of the use of somatic stem cells in regenerative medicine, Wroclaw, Poland.

January 9, 2014. Of VSELs and Insulin Signaling. Research Seminar Series at Molecular Target Group, James Graham Brown Cancer Center, University of Louisville, USA.

June 27, 2014. Of VSELs and Insulin Signaling. 15th Congress of the Polish Society of Experimental and Clinical Immunology, Wrocław, Poland.

September 17, 2014. VSELs - sleeping beauty or the beast? Of Insulin/Insulin-like growth factor signaling and VSELs. III Meeting of Cytometry, Kazimierz Dolny, Poland.

September 25, 2014. VSELs - sleeping beauty or the beast? Of Insulin/Insulin-like growth factor signaling and VSELs. XXVI Congress of Polish Society of Physiology, Szczecin, Poland.

October 29, 2014. Hematopoietic Stem/Progenitor Cells Express Several Functional Sex Hormone Receptors – Novel Evidence for a Potential Developmental Link Between Hematopoiesis, VSELs and Primordial Germ Cells. Novel Stem Cells & Vesicles Symposium, Providence, RI, USA.

## Bibliography

### Publications, peer-reviewed

1. Libura J, Drukala J, Majka M, Tomescu O, Navenot JM, Kucia M, Marquez L, Peiper SC, Barr FG, Janowska-Wieczorek A, Ratajczak MZ. CXCR4-SDF-1 signaling is active in rhabdomyosarcoma cells and regulates locomotion, chemotaxis, and adhesion. *Blood* 2002; 100(7):2597-606.
2. Ratajczak MZ, Majka M, Kucia M, Drukala J, Pietrzakowski Z, Peiper S, Janowska-Wieczorek A. Expression of functional CXCR4 by muscle satellite cells and secretion of SDF-1 by muscle-derived fibroblasts is associated with the presence of both muscle progenitors in bone marrow and hematopoietic stem/progenitor cells in muscles. *Stem Cells* 2003; 21(3):363-71.
3. Ratajczak J, Kucia M, Reza R, Zhang J, Machalinski B, Ratajczak MZ. Quiescent CD34+ early erythroid progenitors are resistant to several erythropoietic 'inhibitory' cytokines; role of FLIP. *Br J Haematol* 2003; 123(1):160-9.
4. Ratajczak MZ, Kucia M, Reza R, Majka M, Janowska-Wieczorek A, Ratajczak J. Stem cell plasticity revisited: CXCR4-positive cells expressing mRNA for early muscle, liver and neural cells 'hide out' in the bone marrow. *Leukemia* 2004; 18(1):29-40.
5. Ratajczak J, Reza R, Kucia M, Majka M, Allendorf DJ, Baran JT, Janowska-Wieczorek A, Wetsel RA, Ross GD, Ratajczak MZ. Mobilization studies in mice deficient in either C3 or C3a receptor (C3aR) reveal a novel role for complement in retention of hematopoietic stem/progenitor cells in bone marrow. *Blood* 2004; 103(6):2071-8.
6. Jankowski K, Kucia M, Wysoczynski M, Reza R, Zhao D, Trzyna E, Trent J, Peiper S, Zembala M, Ratajczak J, Houghton P, Janowska-Wieczorek A, Ratajczak MZ. Both hepatocyte growth factor (HGF) and stromal-derived factor-1 regulate the metastatic behavior of human rhabdomyosarcoma cells, but only HGF enhances their resistance to radiochemotherapy. *Cancer Res* 2003; 63(22):7926-35.
7. Kucia M, Ratajczak J, Reza R, Janowska-Wieczorek A, Ratajczak MZ. Tissue-specific muscle, neural and liver stem/progenitor cells reside in the bone marrow, respond to an SDF-1 gradient and are mobilized into peripheral blood during stress and tissue injury. *Blood Cells Mol Dis* 2004; 32(1):52-7.
8. Ratajczak MZ, Reza R, Wysoczynski M, Kucia M, Baran JT, Allendorf DJ, Ratajczak J, Ross GD. Transplantation studies in C3-deficient animals reveal a novel role of the third complement component (C3) in engraftment of bone marrow cells. *Leukemia* 2004; 18(9):1482-90.
9. Wysoczynski M, Reza R, Ratajczak J, Kucia M, Shirvaikar N, Honczarenko M, Mills M, Wanzeck J, Janowska-Wieczorek A, Ratajczak MZ. Incorporation of CXCR4 into membrane lipid rafts primes homing-related responses of hematopoietic stem/progenitor cells to an SDF-1 gradient. *Blood* 2005; 105(1):40-8.

10. Kucia M, Jankowski K, Reca R, Wysoczynski M, Bandura L, Allendorf DJ, Zhang J, Ratajczak J, Ratajczak MZ. CXCR4-SDF-1 signalling, locomotion, chemotaxis and adhesion. *J Mol Histol* 2004; 35(3):233-45.
11. Ratajczak MZ, Kucia M, Majka M, Reca R, Ratajczak J. Heterogeneous populations of bone marrow stem cells - are we spotting on the same cells from the different angles? *Folia Histochem Cytobiol* 2004; 42(3):139-46.
12. Chilton PM, Rezzoug F, Ratajczak MZ, Fugier-Vivier I, Ratajczak J, Kucia M, Huang Y, Tanner MK, Ildstad ST. Hematopoietic stem cells from NOD mice exhibit autonomous behavior and a competitive advantage in allogeneic recipients. *Blood* 2005; 105(5):2189-97.
13. Wojakowski W, Tendera M, Michalowska A, Majka M, Kucia M, Maslankiewicz K, Wyderka R, Ochala A, Ratajczak MZ. Mobilization of CD34/CXCR4+, CD34/CD117+, c-met+ stem cells, and mononuclear cells expressing early cardiac, muscle, and endothelial markers into peripheral blood in patients with acute myocardial infarction. *Circulation* 2004; 110(20):3213-20.
14. Kucia M, Ratajczak J, Ratajczak MZ. Bone marrow as a source of circulating CXCR4+ tissue-committed stem cells. *Biol Cell* 2005; 97(2):133-46.
15. Kucia M, Dawn B, Hunt G, Guo Y, Wysoczynski M, Majka M, Ratajczak J, Rezzoug F, Ildstad ST, Bolli R, Ratajczak MZ. Cells expressing early cardiac markers reside in the bone marrow and are mobilized into the peripheral blood after myocardial infarction. *Circ Res* 2004; 95(12):1191-9.
16. Kucia M, Reca R, Miekus K, Wanzeck J, Wojakowski W, Janowska-Wieczorek A, Ratajczak J, Ratajczak MZ. Trafficking of normal stem cells and metastasis of cancer stem cells involve similar mechanisms: pivotal role of the SDF-1-CXCR4 axis. *Stem Cells* 2005; 23(7):879-94.
17. Kucia M, Reca R, Jala VR, Dawn B, Ratajczak J, Ratajczak MZ. Bone marrow as a home of heterogenous populations of nonhematopoietic stem cells. *Leukemia* 2005; 19(7):1118-27.
18. Kucia M, Ratajczak J, Ratajczak MZ. Are bone marrow stem cells plastic or heterogenous--that is the question. *Exp Hematol* 2005; 33(6):613-23.
19. Majka M, Kucia M, Ratajczak MZ. Stem cell biology - a never ending quest for understanding. *Acta Biochim Pol* 2005; 52(2):353-8.
20. Wojakowski W, Tendera M, Zebzda A, Michalowska A, Majka M, Kucia M, Maslankiewicz K, Wyderka R, Krol M, Ochala A, Kozakiewicz K, Ratajczak MZ. Mobilization of CD34(+), CD117(+), CXCR4(+), c-met(+) stem cells is correlated with left ventricular ejection fraction and plasma NT-proBNP levels in patients with acute myocardial infarction. *Eur Heart J* 2006; 27(3):283-9.
21. Kucia M, Zhang YP, Reca R, Wysoczynski M, Machalinski B, Majka M, Ildstad ST, Ratajczak J, Shields CB, Ratajczak MZ. Cells enriched in markers of neural tissue-committed stem cells reside in the bone marrow and are mobilized into the peripheral blood following stroke. *Leukemia* 2006; 20(1):18-28.
22. Son BR, Marquez-Curtis LA, Kucia M, Wysoczynski M, Turner AR, Ratajczak J, Ratajczak MZ, Janowska-Wieczorek A. Migration of bone marrow and cord blood mesenchymal stem cells in vitro is regulated by stromal-derived factor-1-CXCR4 and hepatocyte growth factor-c-met axes and involves matrix metalloproteinases. *Stem Cells* 2006; 24(5):1254-64.
23. Ratajczak J, Miekus K, Kucia M, Zhang J, Reca R, Dvorak P, Ratajczak MZ. Embryonic stem cell-derived microvesicles reprogram hematopoietic progenitors: evidence for horizontal transfer of mRNA and protein delivery. *Leukemia* 2006; 20(5):847-56.
24. Kucia M, Reca R, Campbell FR, Zuba-Surma E, Majka M, Ratajczak J, Ratajczak MZ. A population of very small embryonic-like (VSEL) CXCR4(+)SSEA-1(+)Oct-4+ stem cells identified in adult bone marrow. *Leukemia* 2006; 20(5):857-69.
25. Huang Y, Kucia M, Rezzoug F, Ratajczak J, Tanner MK, Ratajczak MZ, Schanie CL, Xu H, Fugier-Vivier I, Ildstad ST. Flt3-ligand-mobilized peripheral blood, but not Flt3-ligand-expanded bone marrow, facilitating cells promote establishment of chimerism and tolerance. *Stem Cells* 2006; 24(4):936-48.

26. Ratajczak MZ, Kucia M, Dobrowolska H, Wanzeck J, Reza R, Ratajczak J. Emerging concept of cancer as a stem cell disorder. *CEJB* 2006; 4(1): 1-15.
27. Ratajczak MZ, Zuba-Surma E, Kucia M, Reza R, Wojakowski W, Ratajczak J. The pleiotropic effects of the SDF-1-CXCR4 axis in organogenesis, regeneration and tumorigenesis. *Leukemia* 2006; 20: 1915-24.
28. Zuba-Surma EK, Abdel-Latif A, Case J, Tiwari S, Hunt G, Kucia M, Vincent RJ, Ranjan S, Ratajczak MZ, Srour EF, Bolli R, Dawn B. Sca-1 expression is associated with decreased cardiomyogenic differentiation potential of skeletal muscle-derived adult primitive cells. *J Mol Cell Cardiol.* 2006; 41(4):650-60.
29. Kucia M, Wojakowski W, Reza R, Machalinski B, Gozdzik J, Majka M, Baran J, Ratajczak J, Ratajczak MZ. The migration of bone marrow-derived non-hematopoietic tissue-committed stem cells is regulated in an SDF-1-, HGF-, and LIF-dependent manner. *Arch Immunol Ther Exp (Warsz)* 2006; 54(2):121-35.
30. Kucia M, Halasa M, Wysoczynski M, Baskiewicz-Masiuk M, Moldenhawer S, Zuba-Surma E, Czajka R, Wojakowski W, Machalinski B, Ratajczak MZ. Morphological and molecular characterization of novel population of CXCR4(+) SSEA-4(+) Oct-4(+) very small embryonic-like cells purified from human cord blood - preliminary report. *Leukemia* 2007; 21(2):297-303.
31. Kucia M, Zuba-Surma E, Wysoczynski M, Dobrowolska H, Reza R, Ratajczak J, Ratajczak MZ. Physiological and pathological consequences of identification of very small embryonic like (VSEL) stem cells in adult bone marrow. *J Physiol Pharmacol.* 2006; 57 Suppl 5:5-18.
32. Kucia M, Ratajczak MZ. Stem cells as a two edged sword - from regeneration to tumor formation. *J Physiol Pharmacol* 2006; 57 Suppl 7:5-16.
33. Kucia M, Machalinski B, Ratajczak MZ. The developmental deposition of epiblast/germ cell-line derived cells in various organs as a hypothetical explanation of stem cell plasticity? *Acta Neurobiol Exp (Wars)* 2006; 66(4):331-41.
34. Wysoczynski M, Kucia M, Ratajczak J, Ratajczak MZ. Cleavage fragments of the third complement component (C3) enhance stromal derived factor-1 (SDF-1)-mediated platelet production during reactive postbleeding thrombocytosis. *Leukemia* 2007; 21(5):973-82.
35. Wojakowski W, Kucia M, Kazmierski M, Ratajczak MZ, Tendera M. Circulating stem/progenitor cells in stable ischemic heart disease and acute coronary syndromes - relevant reparatory mechanism? *Heart* 2008; 94(1):27-33.
36. Ratajczak MZ, Machalinski B, Wojakowski W, Ratajczak J, Kucia M. A hypothesis for an embryonic origin of pluripotent Oct-4(+) stem cells in adult bone marrow and other tissues. *Leukemia* 2007; 21(5):860-7.
37. Kucia M, Wu W, Ratajczak MZ. Bone marrow-derived very small embryonic-like stem cells: their developmental origin and biological significance. *Dev Dyn.* 2007; 236(12):3309-20.
38. Kucia M, Wysoczynski M, Ratajczak J, Ratajczak MZ. Identification of very small embryonic like (VSEL) stem cells in bone marrow. *Cell Tissue Res.* 2008; 331(1):125-34.
39. Wysoczynski M, Ratajczak J, Reza R, Kucia M, Ratajczak MZ. The third complement component as modulator of platelet production. *Adv Exp Med Biol.* 2007; 598:226-39.
40. Kucia M, Zuba-Surma EK, Wysoczynski M, Wu W, Ratajczak J, Machalinski B, Ratajczak MZ. Adult marrow-derived very small embryonic-like stem cells and tissue engineering. *Expert Opin Biol Ther.* 2007; 7(10):1499-514.
41. Ratajczak MZ, Zuba-Surma EK, Machalinski B, Kucia M. Bone-marrow-derived stem cells--our key to longevity? *J Appl Genet.* 2007; 48(4):307-19.
42. Zuba-Surma EK, Kucia M, Abdel-Latif A, Dawn B, Hall B, Singh R, Lillard JW Jr, Ratajczak MZ. Morphological characterization of very small embryonic-like stem cells (VSELS) by ImageStream system analysis. *J Cell Mol Med.* 2008; 12(1):292-303.
43. Zuba-Surma EK, Kucia M, Abdel-Latif A, Lillard J Jr, Ratajczak MZ. The ImageStream System: a key step to a new era in imaging. *Folia Histochem Cytobiol.* 2007;45(4):279-90.

44. Ratajczak MZ, Zuba-Surma EK, Wysoczynski M, Wan W, Ratajczak J, Wojakowski W, Kucia M. Hunt for pluripotent stem cell -- regenerative medicine search for almighty cell. *J Autoimmun.* 2008; 30(3):151-62.
45. Zuba-Surma EK, Wu W, Ratajczak J, Kucia M, Ratajczak MZ. Very small embryonic-like stem cells in adult tissues-Potential implications for aging. *Mech Ageing Dev.* 2009; 130(1-2):58-66.
46. Dawn B, Tiwari S, Kucia MJ, Zuba-Surma EK, Guo Y, Sanganalmath SK, Abdel-Latif A, Hunt G, Vincent RJ, Taher H, Reed NJ, Ratajczak MZ, Bolli R. Transplantation of Bone Marrow-Derived Very Small Embryonic-like Stem Cells (Vsels) Attenuates Left Ventricular Dysfunction and Remodeling after Myocardial Infarction. *Stem Cells.* 2008; 26(6):1646-55.
47. Zuba-Surma EK, Kucia M, Dawn B, Guo Y, Ratajczak MZ, Bolli R. Bone marrow-derived pluripotent very small embryonic-like stem cells (VSEs) are mobilized after acute myocardial infarction. *J Mol Cell Cardiol.* 2008; 44(5):865-73.
48. Ratajczak MZ, Zuba-Surma EK, Machalinski B, Ratajczak J, Kucia M. Very Small Embryonic-Like (VSEL) Stem Cells: Purification from Adult Organs, Characterization, and Biological Significance. *Stem Cell Rev.* 2008; 4(2):89-99.
49. Ratajczak MZ, Zuba-Surma EK, Wysoczynski M, Ratajczak J, Kucia M. Very small embryonic-like stem cells: characterization, developmental origin, and biological significance. *Exp Hematol.* 2008; 36(6):742-51.
50. Kucia M, Wysoczynski M, Wu W, Zuba-Surma EK, Ratajczak J, Ratajczak MZ. Evidence that Very Small Embryonic Like (VSEL) Stem Cells are Mobilized into Peripheral Blood. *Stem Cells.* 2008; 26(8):2083-92.
51. Ratajczak MZ, Zuba-Surma EK, Shin DM, Ratajczak J, Kucia M. Very small embryonic-like (VSEL) stem cells in adult organs and their potential role in rejuvenation of tissues and longevity. *Exp Gerontol.* 2008; 43(11):1009-17.
52. Fan TW, Kucia M, Jankowski K, Higashi RM, Ratajczak J, Ratajczak MZ, Lane AN. Rhabdomyosarcoma cells show an energy producing anabolic metabolic phenotype compared with primary myocytes. *Mol Cancer.* 2008; 21;7:79.
53. Zuba-Surma EK, Kucia M, Wu W, Klich I, Lillard JW Jr, Ratajczak J, Ratajczak MZ. Very small embryonic-like stem cells are present in adult murine organs: ImageStream-based morphological analysis and distribution studies. *Cytometry A.* 2008; 73A(12):1116-27.
54. Zuba-Surma EK, Kucia M, Ratajczak J, Ratajczak MZ. "Small stem cells" in adult tissues: very small embryonic-like stem cells stand up! *Cytometry A.* 2009; 75(1):4-13.
55. Ratajczak MZ, Wysoczynski M, Reza R, Wan W, Zuba-Surma EK, Kucia M, Ratajczak J. A pivotal role of activation of complement cascade (CC) in mobilization of hematopoietic stem/progenitor cells (HSPC). *Adv Exp Med Biol.* 2008; 632:47-60.
56. Ratajczak MZ, Kucia M, Dong-Myung S, Liu R, Drukala J, Marlicz W, Ratajczak J, EK Zuba-Surma. A unique population of mobile very small embryonic/epiblast like (VSEL) stem cells resides in adult tissues: physiological and pathological consequences. *J. Cell Ther & Transpl.* 2008 (in press).
57. Ratajczak MZ, Kucia M, Ratajczak J, Zuba-Surma EK. A multi-instrumental approach to identify and purify very small embryonic like stem cells (VSEs) from adult tissues. *Micron.* 2009; 40(3):386-93.
58. Wojakowski W, Tendera M, Kucia M, Zuba-Surma E, Paczkowska E, Ciosek J, Halasa M, Król M, Kazmierski M, Buszman P, Ochała A, Ratajczak J, Machaliński B, Ratajczak MZ. Mobilization of bone marrow-derived Oct-4+ SSEA-4+ very small embryonic-like stem cells in patients with acute myocardial infarction. *J Am Coll Cardiol.* 2009;53(1):1-9.
59. Paczkowska E, Kucia M, Koziarska D, Halasa M, Safranow K, Masiuk M, Karbicka A, Nowik M, Nowacki P, Ratajczak MZ, Machalinski B. Clinical Evidence That Very Small Embryonic-Like Stem Cells Are Mobilized Into Peripheral Blood in Patients After Stroke. *Stroke.* 2009; 40(4):1237-44.
60. Zuba-Surma EK, Kucia M, Liu R, Wojakowski W, Ratajczak J, Ratajczak MZ. Fetal liver very small embryonic like stem cells (VSEs) follow developmental migratory pathway of hematopoietic stem cells. *Ann New York Acad. Sci* 2009 (in press).

61. Ratajczak MZ, Shin DM, Kucia M. Very Small Embryonic/Epiblast-Like Stem Cells – A missing link to support the germ line hypothesis of cancer development? *Am J Pathol.* 2009; 174(6):1985-92.
62. Liu Y, Gao L, Zuba-Surma EK, Peng X, Kucia M, Ratajczak MZ, Wang W, Enzman V, Kaplan HJ, Dean DC. Identification of small Sca-1(+), Lin(-), CD45(-) multipotential cells in the neonatal murine retina. *Exp Hematol.* 2009; 37(9):1096-107.
63. Wysoczynski M, Shin DM, Kucia M, Ratajczak MZ. Selective up-regulation of interleukin-8 by human rhabdomyosarcomas in response to hypoxia: Therapeutic implications. *Int J Cancer.* 2010; 126(2): 371-81.
64. Shin DM, Zuba-Surma EK, Wu W, Ratajczak J, Wysoczynski M, Ratajczak MZ, Kucia M. Novel epigenetic mechanisms that control pluripotency and quiescence of adult bone marrow-derived Oct4<sup>+</sup> very small embryonic-like stem cells. *Leukemia* 2009, 23(11): 2042-51.
65. Lee HM, Wu W, Wysoczynski M, Liu R, Zuba-Surma EK, Kucia M, Ratajczak J, Ratajczak MZ. Impaired mobilization of hematopoietic stem/progenitor cells in C5-deficient mice supports the pivotal involvement of innate immunity in this process and reveals novel promobilization effects of granulocytes. *Leukemia* 2009; 23(11): 2052-62.
66. Zuba-Surma EK, Kucia M, Rui L, Shin DM, Wojakowski W, Ratajczak J, Ratajczak MZ. Fetal liver very small embryonic/epiblast like stem cells follow developmental migratory pathway of hematopoietic stem cells. *Ann N Y Acad Sci.* 2009; 1176: 205-18.
67. Maksym RB, Tarnowski M, Grymula K, Tarnowska J, Wysoczynski M, Liu R, Czerny B, Ratajczak J, Kucia M, Ratajczak MZ. The role of stromal-derived factor-1--CXCR7 axis in development and cancer. *Eur J Pharmacol.* 2009; 625(1-3): 31-40.
68. Kawa MP, Grymula K, Paczkowska E, Baskiewicz-Masiuk M, Dabkowska E, Koziolok M, Tarnowski M, Kłos P, Dziedziejko V, Kucia M, Syrenicz A, Machalinski B. Clinical relevance of thyroid dysfunction in human haematopoiesis: biochemical and molecular studies. *Eur J Endocrinol.* 2010; 162(2): 295-305.
69. Lee HM, Wysoczynski M, Liu R, Shin DM, Kucia M, Botto M, Ratajczak J, Ratajczak MZ. Mobilization studies in complement-deficient mice reveal that optimal AMD3100 mobilization of hematopoietic stem cells depends on complement cascade activation by AMD3100-stimulated granulocytes. *Leukemia.* 2009 Dec 24, in press.
70. Tarnowski M, Grymula K, Reza R, Jankowski K, Maksym R, Tarnowska J, Przybylski G, Barr FG, Kucia M, Ratajczak MZ. Regulation of expression of stromal-derived factor-1 receptors: CXCR4 and CXCR7 in human rhabdomyosarcomas. *Mol Cancer Res.* 2010; 8(1):1-14.
71. Huang Y, Kucia M, Hussain LR, Wen Y, Xu H, Yan J, Ratajczak MZ, Ildstad ST. Bone Marrow Transplantation Temporarily Improves Pancreatic Function in Streptozotocin-Induced Diabetes: Potential Involvement of Very Small Embryonic-Like Cells. Transplantation. 2010 Jan 27, in press.
72. Shin DM, Kucia M, Ratajczak MZ. Nuclear and Chromatin Reorganization during Cell Senescence and Aging. *Gerontology.* 2011; 57(1):76-84.
73. Grymula K, Tarnowski M, Wysoczynski M, Drukala J, Barr FG, Ratajczak J, Kucia M, Ratajczak MZ. Overlapping and distinct role of CXCR7-SDF-1/ITAC and CXCR4-SDF-1 axes in regulating metastatic behavior of human rhabdomyosarcomas. *Int J Cancer.* 2010; 127(11):2554-68.
74. Ratajczak MZ, Shin DM, Liu R, Marlicz W, Tarnowski M, Ratajczak J, Kucia M. Epiblast/germ line hypothesis of cancer development revisited: lesson from the presence of Oct-4<sup>+</sup> cells in adult tissues. *Stem Cell Rev.* 2010; 6(2):307-16.
75. Ratajczak MZ, Lee H, Wysoczynski M, Wan W, Marlicz W, Laughlin MJ, Kucia M, Janowska-Wieczorek A, Ratajczak J. Novel insight into stem cell mobilization-plasma sphingosine-1-phosphate is a major chemoattractant that directs the egress of hematopoietic stem progenitor cells from the bone marrow and its level in peripheral blood increases during mobilization due to activation of complement cascade/membrane attack complex. *Leukemia.* 2010; 24(5):976-85.

76. Wysoczynski M, Liu R, Kucia M, Drukala J, Ratajczak MZ. Thrombin regulates the metastatic potential of human rhabdomyosarcoma cells: distinct role of PAR1 and PAR3 signaling. *Mol Cancer Res.* 2010; 8(5):677-90.
77. Taichman RS, Wang Z, Shiozawa Y, Jung Y, Song J, Balduino A, Wang J, Patel LR, Havens AM, Kucia M, Ratajczak MZ, Krebsbach PH. Prospective identification and skeletal localization of cells capable of multilineage differentiation in vivo. *Stem Cells Dev.* 2010; 19(10):1557-70.
78. Shin DM, Liu R, Klich I, Wu W, Ratajczak J, Kucia M, Ratajczak MZ. Molecular signature of adult bone marrow-purified very small embryonic-like stem cells supports their developmental epiblast/germ line origin. *Leukemia.* 2010; 24(8):1450-61.
79. Shin DM, Liu R, Klich I, Ratajczak J, Kucia M, Ratajczak MZ. Molecular characterization of isolated from murine adult tissues very small embryonic/epiblast like stem cells (VSELs). *Mol Cells.* 2010; 29(6):533-8.
80. Wojakowski W, Tendera M, Kucia M, Zuba-Surma E, Milewski K, Wallace-Bradley D, Kazmierski M, Buszman P, Hrycek E, Cybulski W, Kaluza G, Wieczorek P, Ratajczak J, Ratajczak MZ. Cardiomyocyte differentiation of bone marrow-derived Oct-4+CXCR4+SSEA-1+ very small embryonic-like stem cells. *Int J Oncol.* 2010; 37(2):237-47.
81. Zuba-Surma EK, Guo Y, Taher H, Sanganalmath SK, Hunt G, Vincent RJ, Kucia M, Abdel-Latif A, Tang XL, Ratajczak MZ, Dawn B, Bolli R. Transplantation of expanded bone marrow-derived very small embryonic-like stem cells (VSEL-SCs) improves left ventricular function and remodeling after myocardial infarction. *J Cell Mol Med.* 2010 Jul 12, epub ahead of print.
82. Ratajczak MZ, Kim CH, Wojakowski W, Janowska-Wieczorek A, Kucia M, Ratajczak J. Innate immunity as orchestrator of stem cell mobilization. *Leukemia.* 2010; 24(10):1667-75.
83. Abdel-Latif A, Zuba-Surma EK, Ziada KM, Kucia M, Cohen DA, Kaplan AM, Van Zant G, Selim S, Smyth SS, Ratajczak MZ. Evidence of mobilization of pluripotent stem cells into peripheral blood of patients with myocardial ischemia. *Exp Hematol.* 2010; 38(12):1131-1142.e1.
84. Tarnowski M, Liu R, Wysoczynski M, Ratajczak J, Kucia M, Ratajczak MZ. CXCR7: a new SDF-1-binding receptor in contrast to normal CD34(+) progenitors is functional and is expressed at higher level in human malignant hematopoietic cells. *Eur J Haematol.* 2010; 85(6):472-83.
85. Tarnowski M, Grymula K, Liu R, Tarnowska J, Drukala J, Ratajczak J, Mitchell RA, Ratajczak MZ, Kucia M. Macrophage migration inhibitory factor is secreted by rhabdomyosarcoma cells, modulates tumor metastasis by binding to CXCR4 and CXCR7 receptors and inhibits recruitment of cancer-associated fibroblasts. *Mol Cancer Res.* 2010 ;8(10):1328-43.
86. Machalinska A, Modrzejewska M, Kotowski M, Dziedziejko V, Kucia M, Kawa M, Safranow K, Baskiewicz-Masiuk M, Modrzejewska A, Karczewicz D, Rudnicki J, Machalinski B. Circulating stem cell populations in preterm infants: implications for the development of retinopathy of prematurity. *Arch Ophthalmol.* 2010; 128(10):1311-9.
87. Wojakowski W, Kucia M, Zuba-Surma E, Jadczyk T, Książek B, Ratajczak MZ, Tendera M. Very small embryonic-like stem cells in cardiovascular repair. *Pharmacol Ther.* 2011; 129(1):21-8.
88. Ratajczak J, Wysoczynski M, Zuba-Surma E, Wan W, Kucia M, Yoder MC, Ratajczak MZ. Adult murine bone marrow-derived very small embryonic-like stem cells differentiate into the hematopoietic lineage after coculture over OP9 stromal cells. *Exp Hematol.* 2011; 39(2):225-37.
89. Ratajczak MZ, Shin DM, Ratajczak J, Kucia M, Bartke A. A novel insight into aging: are there pluripotent very small embryonic-like stem cells (VSELs) in adult tissues overtime depleted in an Igf-1-dependent manner? *Aging (Albany NY).* 2010; 2(11):875-83.
90. Gharib SA, Dayyat EA, Khalyfa A, Kim J, Clair HB, Kucia M, Gozal D. Intermittent hypoxia mobilizes bone marrow-derived very small embryonic-like stem cells and activates developmental transcriptional programs in mice. *Sleep.* 2010; 33(11):1439-46.



91. Wojakowski W, Kucia M, Liu R, Zuba-Surma E, Jadczyk T, Bachowski R, Nabiałek E, Kaźmierski M, Ratajczak MZ, Tendera M. Circulating very small embryonic-like stem cells in cardiovascular disease. *J Cardiovasc Transl Res.* 2011; 4(2):138-44.
92. Ratajczak J, Shin DM, Wan W, Liu R, Masternak MM, Piotrowska K, Wiszniewska B, Kucia M, Bartke A, Ratajczak MZ. Higher number of stem cells in the bone marrow of circulating low Igf-1 level Laron dwarf mice-novel view on Igf-1, stem cells and aging. *Leukemia.* 2011; 25(4):729-33.
93. Ratajczak MZ, Liu R, Ratajczak J, Kucia M, Shin DM. The role of pluripotent embryonic-like stem cells residing in adult tissues in regeneration and longevity. *Differentiation.* 2011; 81(3):153-61.
94. Ratajczak MZ, Kim CH, Wan W, Shin DM, Kucia M, Ratajczak J. The Role of Innate Immunity in Trafficking of Hematopoietic Stem Cells – An Emerging Link between Activation of Complement Cascade and Chemotactic Gradients of Bioactive Sphingolipids. *Current Topics in Innate Immunity 2011* (in press).
95. Ratajczak J, Zuba-Surma E, Paczkowska E, Kucia M, Nowacki P, Ratajczak MZ. Stem cells for neural regeneration - a potential application of Very Small Embryonic-Like Stem Cells (VSELs). *J Physiol Pharmacol.* 2011, 62, 3-12.
96. Ratajczak J, Zuba-Surma E, Klich I, Liu R, Wysoczynski M, Greco N, Kucia M, Laughlin MJ, Ratajczak MZ. Hematopoietic differentiation of umbilical cord blood-derived very small embryonic/epiblast-like stem cells. *Leukemia.* 2011; 25(8):1278-85.
97. Kucia M, Shin DM, Liu R, Ratajczak J, Bryndza E, Masternak MM, Bartke A, Ratajczak MZ. Reduced number of VSELs in bone marrow of Growth Hormone transgenic mice indicates that chronically elevated Igf-1 level accelerates age-dependent exhaustion of pluripotent stem cell pool – novel view on aging. *Leukemia.* 2011; 25(8):1370-4.
98. Gharib SA, Khalyfa A, Kucia MJ, Dayyat EA, Kim J, Clair HB, Gozal D. Transcriptional landscape of bone marrow-derived very small embryonic-like stem cells during hypoxia. *Respir Res.* 2011; 12: 63.
99. Drukała J, Paczkowska E, Kucia M, Młyńska E, Krajewski A, Machaliński B, Madeja Z, Ratajczak MZ. Stem Cells, Including a Population of Very Small Embryonic-Like Stem Cells, are Mobilized Into Peripheral Blood in Patients After Skin Burn Injury. *Stem Cell Rev.* 2011 May 15, epub ahead of print.
100. Korohoda W, Kucia M, Wybieralska E, Wianecka-Skoczeń M, Waligórska A, Drukała J, Madeja Z. Solute-dependent activation of cell motility in strongly hypertonic solutions in *Dictyostelium discoideum*, human melanoma HTB-140 cells and walker 256 carcinosarcoma cells. *Cell Mol Biol Lett.* 2011; 16(3):412-30.
101. Ratajczak MZ, Kucia M, Liu R, Shin DM, Bryndza E, Masternak MM, Tarnowski M, Ratajczak J, Bartke A. RasGrf1: genomic imprinting, VSELs, and aging. *Aging (Albany NY).* 2011 Jul;3(7):692-7.
102. Kim CH, Wu W, Wysoczynski M, Abdel-Latif A, Sunkara M, Morris A, Kucia M, Ratajczak J, Ratajczak MZ. Conditioning for hematopoietic transplantation activates the complement cascade and induces a proteolytic environment in bone marrow: a novel role for bioactive lipids and soluble C5b-C9 as homing factors. *Leukemia.* 2012; 26(1):106-16.
103. Ratajczak MZ, Kim CH, Abdel-Latif A, Schneider G, Kucia M, Morris AJ, Laughlin MJ, Ratajczak J. A novel perspective on stem cell homing and mobilization: review on bioactive lipids as potent chemoattractants and cationic peptides as underappreciated modulators of responsiveness to SDF-1 gradients. *Leukemia.* 2012; 26(1):63-72.
104. Wu W, Kim CH, Liu R, Kucia M, Marlicz W, Greco N, Ratajczak J, Laughlin MJ, Ratajczak MZ. The bone marrow-expressed antimicrobial cationic peptide LL-37 enhances the responsiveness of hematopoietic stem progenitor cells to an SDF-1 gradient and accelerates their engraftment after transplantation. *Leukemia.* 2011 Sep 20. doi: 10.1038/leu.2011.252. Epub ahead of print
105. Ratajczak MZ, Kim C, Wu W, Shin DM, Bryndza E, Kucia M, Ratajczak J. The role of innate immunity in trafficking of hematopoietic stem cells-an emerging link between activation of complement cascade and chemotactic gradients of bioactive sphingolipids. *Adv Exp Med Biol.* 2012; 946:37-54.

106. Shin DM, Liu R, Wu W, Waigel SJ, Zacharias W, Ratajczak MZ, Kucia M. Global Gene Expression Analysis of Very Small Embryonic-Like Stem Cells Reveals that the Ezh2-Dependent Bivalent Domain Mechanism Contributes to Their Pluripotent State. *Stem Cells Dev.* 2012 Jan 4. Epub ahead of print
107. Ratajczak MZ, Kucia M, Jadczyk T, Greco NJ, Wojakowski W, Tendera M, Ratajczak J. Pivotal role of paracrine effects in stem cell therapies in regenerative medicine: can we translate stem cell-secreted paracrine factors and microvesicles into better therapeutic strategies? *Leukemia.* 2011 Dec 19. doi: 10.1038/leu.2011.389. Epub ahead of print
108. Kucia M, Masternak M, Liu R, Shin DM, Ratajczak J, Mierzejewska K, Spong A, Kopchick JJ, Bartke A, Ratajczak MZ. Age (Dordr). 2012 Jan 5. [Epub ahead of print]
109. Marlicz W, Zuba-Surma E, Kucia M, Blogowski W, Starzynska T, Ratajczak MZ. Various types of stem cells, including a population of very small embryonic-like stem cells, are mobilized into peripheral blood in patients with Crohn's disease. *Inflamm Bowel Dis.* 2012 Jan 11. doi: 10.1002/ibd.22875. Epub ahead of print
110. Ratajczak J, Kucia M, Mierzejewska K, Liu R, Kim CH, Natarajan N, Sharma V, Miller DM, Maciejewski J, Ratajczak MZ. A novel view of Paroxysmal Nocturnal Hemoglobinuria (PNH) pathogenesis: more motile PNH hematopoietic stem/progenitor cells (HSPCs) displace normal HSPCs from their niches in bone marrow due to defective adhesion, enhanced migration and mobilization in response to erythrocyte-released sphingosine-1 phosphate (S1P) gradient. *Leukemia.* 2012; 26(7):1722-5.
111. Ratajczak MZ, Shin DM, Liu R, Mierzejewska K, Ratajczak J, Kucia M, Zuba-Surma EK. Very small embryonic/epiblast-like stem cells (VSELs) and their potential role in aging and organ rejuvenation - an update and comparison to other primitive small stem cells isolated from adult tissues. *Aging (Albany NY).* 4(4):235-46, 2012.
112. Ratajczak MZ, Zuba-Surma E, Kucia M, Poniewierska A, Suszynska M, Ratajczak J. Pluripotent and multipotent stem cells in adult tissues. *Adv Med Sci.* 2012; 57(1):1-17.
113. Sluczanska-Glabowska S, Laszczyńska M, Piotrowska K, Glabowski W, Kopchick JJ, Bartke A, Kucia M, Ratajczak MZ. Morphology of ovaries in laron dwarf mice, with low circulating plasma levels of insulin-like growth factor-1 (IGF-1), and in bovine GH-transgenic mice, with high circulating plasma levels of IGF-1. *J Ovarian Res.* 2012 Jul 2; 5:18.
114. Tarnowski M, Schneider G, Amann G, Clark G, Houghton P, Barr FG, Kenner L, Ratajczak MZ, Kucia M. RasGRF1 regulates proliferation and metastatic behavior of human alveolar rhabdomyosarcomas. *Int J Oncol.* 2012 Sep;41(3):995-1004.
115. Ratajczak J, Mierzejewska K, Kucia M, Marlicz W, Pietrkowski Z, Wojakowski W, Greco N, Tendera M, Ratajczak MZ. Paracrine pro-angiopoietic effects of human umbilical cord blood-derived purified CD133+ cells - implications for stem cell therapies in regenerative medicine. *Stem Cells Dev.* 2013; 22(3):422-30.
116. Ratajczak MZ, Shin DM, Schneider G, Ratajczak J, Kucia M. Parental imprinting regulates insulin-like growth factor signaling: a Rosetta Stone for understanding the biology of pluripotent stem cells, aging and cancerogenesis. *Leukemia.* 2013; 27(4):773-9.
117. Ratajczak MZ, Mierzejewska K, Ratajczak J, Kucia M. CD133 Expression Strongly Correlates with the Phenotype of Very Small Embryonic-/Epiblast-Like Stem Cells. *Adv Exp Med Biol.* 2013; 777:125-41.
118. Kim C, Schneider G, Abdel-Latif A, Mierzejewska K, Sunkara M, Borkowska S, Ratajczak J, Morris AJ, Kucia M, Ratajczak MZ. Ceramide-1-phosphate regulates migration of multipotent stromal cells and endothelial progenitor cells-implications for tissue regeneration. *Stem Cells.* 2013; 31(3):500-10.
119. Piotrowska K, Borkowska SJ, Wiszniewska B, Laszczyńska M, Sluczanska-Glabowska S, Havens AM, Kopchick JJ, Bartke A, Taichman RS, Kucia M, Ratajczak MZ. The effect of low and high plasma levels of insulin-like growth factor-1 (IGF-1) on the morphology of major organs-studies of Laron dwarf and bovine growth hormone transgenic (bGHTg) mice. *Histol Histopathol.* 2013; Apr 24, epub ahead of print.

120. Schneider G, Bryndza E, Abdel-Latif A, Ratajczak J, Maj M, Tarnowski M, Klyachkin Y, Houghton P, Morris AJ, Vater A, Klusmann S, Kucia M, Ratajczak MZ. Bioactive lipids S1P and C1P are pro-metastatic factors in human rhabdomyosarcomas cell lines, and their tissue level increases in response to radio/chemotherapy. *Mol Cancer Res.* 2013;11(7):793-807.
121. Mierzejewska K, Heo J, Kang JW, Kang H, Ratajczak J, Ratajczak MZ, Kucia M, Shin DM. Genome-wide analysis of murine bone marrow-derived very small embryonic-like stem cells reveals that mitogenic growth factor signaling pathways play a crucial role in the quiescence and ageing of these cells. *Int J Mol Med.* 2013 May 23. doi: 10.3892/ijmm.2013.1389.
122. Ratajczak MZ, Zuba-Surma E, Wojakowski W, Suszynska M, Mierzejewska K, Liu R, Ratajczak J, Myung-Shin D, Kucia M. Very Small Embryonic Like Stem Cells (VSELs) represent a real challenge in stem cell biology. Recent pros and cons in the midst of a lively debate. *Leukemia.* 2013 Sep 10. doi: 10.1038/leu.2013.255.
123. Słuczanowska-Głąbowska S, Laszczyńska M, Piotrowska K, Głąbowski W, Rumianowski B, Masternak M, Arum O, Kucia M, Kopchick JJ, Bartke A, Ratajczak MZ. The effect of calorie restriction on the presence of apoptotic ovarian cells in normal wild type mice and low-plasma-IGF-1 Laron dwarf mice. *J Ovarian Res.* 2013; 6(1):67.
124. Suszynska M, Zuba-Surma EK, Maj M, Mierzejewska K, Ratajczak J, Kucia M, Ratajczak MZ. The Proper Criteria for Identification and Sorting of Very Small Embryonic-Like Stem Cells, and Some Nomenclature Issues. *Stem Cells Dev.* 2014 Jan 11. [Epub ahead of print]
125. Ratajczak MZ, Jadczyk T, Schneider G, Kakar SS, Kucia M. Induction of a tumor-metastasis-receptive microenvironment as an unwanted and underestimated side effect of treatment by chemotherapy or radiotherapy. *J Ovarian Res.* 2013; 6(1):95.
126. Mierzejewska K, Klyachkin YM, Ratajczak J, Abdel-Latif A, Kucia M, Ratajczak MZ. Sphingosine-1-phosphate-Mediated Mobilization of Hematopoietic Stem/Progenitor Cells during Intravascular Hemolysis Requires Attenuation of SDF-1-CXCR4 Retention Signaling in Bone Marrow. *Biomed Res Int.* 2013; 2013:814549. doi: 10.1155/2013/814549.
127. Borkowska S, Suszynska M, Mierzejewska K, Ismail A, Budkowska M, Salata D, Dolegowska B, Kucia M, Ratajczak J, Ratajczak MZ. Novel evidence that crosstalk between the complement, coagulation and fibrinolysis proteolytic cascades is involved in mobilization of hematopoietic stem/progenitor cells (HSPCs). *Leukemia.* 2014 Mar 26. doi: 10.1038/leu.2014.115.
128. Grymula K, Tarnowski M, Piotrowska K, Suszynska M, Mierzejewska K, Borkowska S, Fiedorowicz K, Kucia M, Ratajczak MZ. Evidence that the population of quiescent bone marrow-residing very small embryonic/epiblast-like stem cells (VSELs) expands in response to neurotoxic treatment. *J Cell Mol Med.* 2014; 18(9): 1797-806.
129. Suszynska M, Poniewierska-Baran A, Gunjal P, Ratajczak J, Marycz K, Kakar SS, Kucia M, Ratajczak MZ. Expression of the erythropoietin receptor by germline-derived cells - further support for a potential developmental link between the germline and hematopoiesis. *J Ovarian Res.* 2014; 7:66. doi: 10.1186/1757-2215-7-66.

**Publications in Polish: (refereed full papers indexed and abstracted in Medline or Excerpta Medica):**

1. Kucia M, Drukala J. Advance in Methods of Culturing Cells for Transplantology - Stem Cells. *Post. Biol. Kom.* 2002, 29: 257-268.
2. Kucia M, Majka M, Ratajczak M.Z. Phenomenon of the plasticity of the tissue committed stem cells. *Post. Biol. Kom.* 2003, 30, 3-15.
3. Majka M, Michalowska A, Kucia M, Ratajczak M.Z. Isolation of human skeletal muscle stem cells. *Post. Biol. Kom.* 2003, 30, 17-24.

4. Ratajczak MZ, Kucia M. Stem Cells – Great Expectations? Post. Biol. Kom. 2005, suppl. 23: 11–26.
5. Zuba-Surma EK, Kucia M, Ratajczak MZ. Image stream technology – a step forward than flow cytometry. Post. Biol. Kom. 2007, 34, 361-375.

### Books chapters

1. Kucia M, Ratajczak J, Ratajczak MZ. Nonhematopoietic stem cells originating within the bone marrow. Hematology: basic principles and practice. 5th Edition. Churchill Livingstone Elsevier, 231-244.
2. Ratajczak MZ, Wysoczynski M, Reza R, Wu W, Zuba-Surma EK, Kucia M, Ratajczak J. A pivotal Role of Complement Cascade (CC) in Mobilization of Hematopoietic Stem/Progenitor Cells (HSPC). Chapter in: Current Topics in Complement II; Lambris JD (editor); Springer Science+Business Med, LLC, 2008.
3. Ratajczak MZ, Zuba-Surma EK, Kucia M, Ratajczak J. Adult Stem and Progenitor Cells. Chapter in: Regenerative Medicine; Fisher RC and Scott EW (editors); Elsevier Health Sciences, 2008.
4. Ratajczak MZ, Zuba-Surma E, Kucia M, Nowacki P, Machalinski B. Potential Application of Very Small Embryonic Like (VSEL) Stem Cells in Neural Regeneration. H. Ulrich (ed.). Perspective of Stem Cells, Springer Science + Business Media B.V. 2010. Chapter 14.
5. Zuba-Surma E, Shin DM, Klich I, Ratajczak J, Kucia M, Ratajczak MZ. Identification and isolation of Very Small Embryonic-like Stem Cells from murine and human specimens. Applications of Flow Cytometry in Stem Cell Research and Tissue Regeneration. Wiley-Blackwell, 2010. Chapter 7.
6. Shin DM, Lui R, Nowacki P, Ratajczak J, M Kucia M, Ratajczak MZ. Very small embryonic-like stem cells and their potential relevance for kidney homeostasis. In Regenerative Nephrology. (Goligorsky M ed). Academic Press 2010, pp. 189-199.
7. Ratajczak J, Shin DM, Kucia M, Ratajczak MZ. Very Small Embryonic-like Stem Cell from Umbilical Cord Blood. Cord Blood: Biology, Transplantation, Banking, and Regulation. Editor Hal E. Broxmeyer. AABB Press. Bethesda, Maryland, 2011. Chapter 6, pp. 113-131.
8. Shin DM, Ratajczak J, Kucia M, Ratajczak MZ. Very Small Embryonic/Epiblast-Like Stem Cells (VSEs) Residing in Adult Tissues and Their Role in Tissue Rejuvenation and Regeneration. Embryonic Stem Cells - Differentiation and Pluripotent Alternatives, ISBN 978-953-307-632-4. Editor Michael S. Kallos. Chapter 22, pp. 433-450.
9. Ratajczak MZ, Mierzejewska K, Kucia M, Greco N, Ratajczak J. Microvesicles and their emerging role in cellular therapies for organ and tissue regeneration. Chapter 10 (pp203-216) in: Emerging Concepts of Tumor Exosome-Mediated Cell-Cell Communication. Editor Huang-Ge Zhang. Springer, 2012.

### Abstracts:

The papers were presented at national and international congresses and symposia.

#### American Society of Hematology, 45th annual meeting, San Diego, 2003

1. Ratajczak MZ, Reza R, Wysoczynski M, Kucia M, Turner RA, Janowska-Wieczorek A, Ratajczak J. Priming/increasing responsiveness of hematopoietic stem/progenitor cells (HSPC) to an SDF-1 gradient as a new strategy to improve their engraftment after transplantation. Abstract 121.
2. Ratajczak J, Reza R, Kucia M, Majka M, Allendorf DJ, Baran J, Wetsel RA, Janowska-Wieczorek A, Ross GD, Ratajczak MZ. Mobilization studies in mice deficient in either C3 or C3a receptor (C3aR) reveal a novel role for complement in retention of hematopoietic stem/progenitor cells in bone marrow: implications for the use of the C3aR antagonist as a new mobilization-facilitating agent. Abstract 387.

3. Reca R, Kucia M, Wysoczynski M, Ratajczak J, Sirvaikar N, Janowska-Wieczorek A, Ratajczak MZ. Because mobilized peripheral blood stem/progenitor cells are primed by various inflammatory molecules present in supernatants from leukapheresis products for their chemotactic responses to SDF-1 they engraft faster than bone marrow cells after transplantation. Abstract 392.
4. Majka M, Reca R, Kucia M, Ratajczak J, Ratajczak MZ. Newly identified crosstalk between the thrombin-PAR-1 and SDF-1-CXCR4 axes regulates trafficking of megakaryocytic cells and pro-platelet formation. Abstract 1270.
5. Jankowski K, Kucia M, Wysoczynski M, Trzyna E, Ratajczak J, Janowska-Wieczorek A, Ratajczak MZ. Both HGF and SDF-1 regulate the metastatic behavior of human rhabdomyosarcoma cells, but only HGF enhances their resistance to radio-chemotherapy. Abstract 3124.

#### 9 Symposia of Polish Section of Experimental Cardiology, Ustroń, Poland 2004

6. Wojakowski W, Michałowska A, Majka M, Kucia M, Maślankiewicz K, Wyderka R, Ochała A, Ratajczak MZ, Tendera M. The mobilization of tissue-committed (CD34+, CD117+, CXCR4+, c-met+) stem cells expressing early cardiac, muscle and endothelial markers into peripheral blood in acute myocardial infarction. Regent study.

#### International Society of Cardiology Congress, Warszawa, Poland 2004

7. Wojakowski W, Michałowska A, Majka M, Kucia M, Maślankiewicz K, Wyderka R, Ochała A, Ratajczak MZ, Tendera M. The mobilization of tissue-committed stem cells expressing specific cardiac, muscle and endothelial markers into peripheral blood in patients with acute myocardial infarction. Abstract P637.

#### European Society of Cardiology Congress 2004, Munich

8. Wojakowski W, Michałowska A, Majka M, Kucia M, Maślankiewicz K, Wyderka R, Ochała A, Ratajczak MZ, Tendera M. The mobilization of CD34+, CD117+, CXCR4+, c-met+ tissue-committed stem cells into peripheral blood in patients with acute myocardial infarction. Abstract P1105.

#### American Heart Association Scientific Sessions 2004, New Orleans

9. Wojakowski W, Michałowska A, Majka M, Kucia M, Maślankiewicz K, Wyderka R, Ochała A, Ratajczak MZ, Tendera M. The mobilization of tissue-committed (CD34+, CD117+, CXCR4+, c-met+) stem cells expressing early cardiac, muscle, and endothelial markers into peripheral blood in acute myocardial infarction: REGENT Study. Abstract 1143.

#### 16th Annual Symposium Transcatheter Cardiovascular Therapeutics TCT 2004

10. Wojakowski W, Michałowska A, Majka M, Kucia M, Maślankiewicz K, Wyderka R, Ochała A, Król M, Ratajczak MZ, Tendera M. The mobilization of tissue-committed (CD34+, CD117+, CXCR4+, c-met+) stem cells expressing early cardiac, muscle, and endothelial markers into peripheral blood in patients with acute myocardial infarction treated with primary percutaneous coronary intervention. Abstract TCT-193.

#### Keystone Symposia, Stem Cells, Colorado 2004

11. Kucia M, Reca R, Janowska-Wieczorek A, Ratajczak J, Ratajczak MZ. Stem cell plasticity revised: CXCR4-positive cells expressing mRNA for early skeletal muscle, heart muscle, liver and neural cells „hide out” in the bone marrow and could be mobilized into peripheral blood. Abstract 354.
12. Janowska-Wieczorek A, Reca R, Kucia M, Ratajczak J, Shirvaikar N, Ratajczak MZ. Mobilized peripheral blood stem/progenitor cells primed by various molecules for their chemotactic responses to SDF-1 engraft faster than bone marrow cells after transplantation. Abstract 232.
13. Ratajczak J, Kucia M, Zhang J, Ratajczak MZ. A novel strategy to improve ex vivo expansion and maintenance of hematopoietic stem cells using membrane-derived microvesicles from embryonic stem cells. Abstract 353.

American Association for Cancer Research, 95th Annual Meeting, Orlando 2004

14. Kucia M, Ratajczak J, Reza R, Janowska-Wieczorek A, Ratajczak MZ. Questioning the concept of stem cell plasticity: tissue-committed early muscle, liver and neural cells reside in the bone marrow and can be isolated by chemotactic gradients to SDF-1, HGF or LIF and mobilized into peripheral blood during tissue/organ injury. Abstract 2789.
15. Wysoczynski M, Reza R, Kucia M, Janowska-Wieczorek A, Ratajczak MZ. Mobilized peripheral blood stem cells are primed by inflammatory molecules for chemotactic response to SDF-1: significance for accelerated bone marrow/cord blood engraftment. Abstract 2791.
16. Ratajczak J, Kucia M, Ratajczak MZ. Membrane-derived microvesicles from embryonic stem cells as a new tool to improve ex vivo expansion and maintenance of hematopoietic stem cells. Abstract 2792.

American Society of Hematology, 46th annual meeting, San Diego, 2004

17. Kucia M, Reza R, Wysoczynski M, Gozdzik J, Ratajczak J, Janowska-Wieczorek A, Ratajczak MZ. A potential new application of mobilization/leukapheresis for enrichment of peripheral blood in Circulating non-hematopoietic CXCR4+CD45- Tissue-Committed Stem Cells (TCSC) for organ/tissue regeneration. Abstract 151.
18. Kucia M, Dawn B, Guo Y, Hunt G, Wysoczynski M, Majka M, Zuba E, Rezzoug F, Ildstad ST, Bolli R, Ratajczak MZ. CXCR4+CD45- Tissue-Committed Stem Cells (TCSC) for myocardium reside in the bone marrow, are mobilized into the peripheral blood during myocardial infarction, and "home" to infarcted myocardium in CXCR4-SDF-1 and HGF/SF-c-Met dependent manner. Abstract 2131
19. Kucia M, Zhang PY, Ratajczak J, Ildstad ST, Shields C, Ratajczak MZ. Evidence that CXCR4+ neural tissue-committed stem cells (TCSC) reside/hide out in the bone marrow and are mobilized into the peripheral blood during stroke. Abstract 2698.
20. Ratajczak J, Miekus K, Kucia M, Dvorak P, Ratajczak MZ. A new mechanism of communication between stem cells involving vertical transfer of mRNA by its intracellular delivery within membrane-derived microvesicles. Abstract 460.
21. Wysoczynski M, Jankowski K, Miekus K, Kucia M, Janowska-Wieczorek A, Ratajczak J, Ratajczak MZ. Leukemia Inhibitory Factor: A newly identified chemoattractant and regulator of metastasis of rhabdomyosarcomas and neuroblastomas to bone marrow. Abstract 1278.
22. Wysoczynski M, Reza R, Kucia M, Ratajczak J, Ratajczak MZ. The novel role of the third complement component (C3) in megakaryopoiesis: implication for pathogenesis of reactive thrombocytosis. Abstract 2906.

9 International Society of Cardiology Congress, Katowice, Poland 2005

23. Wojakowski W, Kucia M, Michałowska A, Majka M, Maślankiewicz K, Wyderka R, Ochała A, Ratajczak MZ, Tendera M. Mobilization of CD34+ stem cells into peripheral blood and expression of early cardiac and endothelial markers in bone marrow stem cells is age-dependent. Abstract P106.

European Society of Cardiology Congress 2005, Stockholm

24. Wojakowski W, Kucia M, Majka M, Michałowska A, Maślankiewicz K, Wyderka R, Ochała A, Ratajczak MZ, Tendera M. Age-dependent mobilization of CD34+ stem cells in acute myocardial infarction and expression of early cardiac and endothelial markers in non-hematopoietic bone marrow cells. Abstract P3938.

International Society for Experimental Hematology, 34th Annual Scientific Meeting, 2005  
Glasgow, Scotland, UK

25. Kucia M, Zuba E, Reza R, Majka M, Ratajczak J, Ratajczak MZ. Bone marrow derived CD45 negative nonhematopoietic stem cells- are we looking at the same cells from different angles? Abstract 272.

26. Wysoczynski M, Reca R, Kucia M, Yan J, Ratajczak J, Ratajczak MZ. C3 complement cleavage fragments (C3a and des-Arg C3a) – new unexpected regulators of megakaryopoiesis and thrombopoiesis. Abstract 103.

The Third Annual Meeting of the European Stem Cell Therapeutics Excellence Centre, October 6-9, 2005, Krakow, Poland

27. Kucia M. Identification of embryonic-like stem cells in adult bone marrow.

American Society of Hematology, 47th annual meeting, Atlanta, 2005

28. Kucia M, Paczkowska E, Majka M, Machalinski B, Ratajczak MZ. Evidence That Functional Neural Tissue-Committed Stem Cells (NTCSC) Reside in the Human Bone Marrow and Are Mobilized into Peripheral Blood in a Patients after Stroke. Abstract 392.
29. Kucia M, Reca R, Ratajczak J, Ratajczak MZ. A Population of Small CXCR4+ SSEA-1+ Oct-4+ Embryonic-Like Stem Cells Identified in Adult Bone Marrow. Abstract 3623.
30. Kucia M, Oldak K, Ratajczak MZ, Ratajczak J, Pojda Z. Percoll Gradient Separation of Cord Blood Mononuclear Cells Reveals the Presence of a Novel Population of CXCR4+ Oct-4+ Small Embryonic-Like Stem Cells. Abstract 1069.
31. Reca R, Kucia M, Baran J, Ratajczak J, Ratajczak MZ. Defective Engraftment of HSPC from C3aR-/- Mice Reveals an Underappreciated Role of C3a-C3aR Axis in Stem Cell Homing to Bone Marrow. Abstract 1259.
32. Reca R, Wysoczynski M, Hansen R, Kucia M, Janowska-Wieczorek A, Ratajczak J, Ratajczak MZ. Immunodeficient Mice Are Poor Mobilizers –Novel Evidence That Demonstrates a Pivotal Role of Complement in Triggering Mobilization of HSPC. Abstract 1976.
33. Wysoczynski M, Reca R, Kucia M, Ratajczak J, Ratajczak MZ. Novel Evidence That Statin-Mediated Perturbation of Lipid Raft Formation Ameliorates Bleeding- Related Thrombocytosis. Abstract 2164.

American Association for Cancer Research, 97th Annual Meeting, Washington 2006

34. Ratajczak MZ, Kucia M, Reca R, Ratajczak J. A population of small CXCR4+ SSEA-1+ Oct-4+ embryonic-like stem cells identified in adult tissues supports the “embryonal-rest hypothesis” of tumor formation. Abstract 321.

International Society for Experimental Hematology, 35th Annual Scientific Meeting, Minneapolis, 2006

35. Kucia M, Zuba-Surma E, Reca R, Ratajczak J, Ratajczak MZ. Adult marrow – derived CXCR4+ SSEA-1+ Oct-4+ Very Small Embryonic-Like (VSEL) Stem Cells form in vitro co-culture spheres which are enriched in pluripotent stem cells. Abstract 89.
36. Reca R, Wysoczyński M, Kucia M, Janowska-Wieczorek A, Ratajczak J, Ratajczak MZ. Experimental evidence that poor mobilization in immunodeficient SCID patients could be explained by the lack of complement activation and complement-dependent triggering of HSPC release from the bone marrow. Abstract 53.
37. Wysoczyński M, Reca R, Kucia M, Ratajczak J, Ratajczak MZ. C3 complement protein cleavage fragments: new underappreciated regulators of megakaryo/thrombopoiesis. Abstract 192.

American Society of Hematology, 48th annual meeting, Orlando, 2006

38. Kucia M, Zuba-Surma E, Reca R, Ratajczak J, Ratajczak MZ. An evidence that murine marrow-derived CXCR4+ SSEA-1+ Oct-4+ Very Small Embryonic- Like (VSEL) Stem Cells are pluripotent and express several primordial germ cell (PGC) markers – hypothesis for developmental deposition of PGC in various organs. Abstract 1676.
39. Kucia M, Halasa M, Wysoczyński M, Baśkiewicz-Masiuk M, Zuba-Surma E, Machaliński B, Ratajczak MZ. A novel population of Oct-4+ SSEA-4+ CXCR4+ CD34+ CD133+ Lin- CD45- Very Small Embryonic-Like (VSEL) Stem Cells identified in human cord blood. Abstract 3195.

40. Ratajczak J, Kucia M, Zuba-Surma E, Reza R, Ratajczak MZ. The CD45- Lin- adult marrow – derived CXCR4+ SSEA-1+ Oct-4+ Very Small Embryonic-Like (VSEL) Stem Cells form in vitro spheres which may differentiate into CD45+ hematopoietic cells. Abstract 280.

American Society of Hematology, 49th annual meeting, Atlanta, 2007

41. Kucia M, Zuba-Surma E, Wu W, Machalinski B, Wojakowski W, Ratajczak MZ. Pluripotent SSEA-1+ OCT-4+ CXCR4+ Sca-1+ lin- CD45- Very Small Embryonic Like (VSEL) Stem Cells Reside in Multiple Murine Organs - Are VSEL Epiblast-Derived Functional Pluripotent Precursors for Tissue Committed Stem Cells or Merely Quiescent Remnants from Embryonic Development?; 110: 3698.
42. Kucia M, Paczkowska E, Koziarska D, Halasa M, Safranow K, Karbicka A, Nowik M, Nowacki P, Ratajczak MZ, Machalinski B. Clinical Evidence That Very Small Embryonic Like (VSEL) Stem Cells Are Mobilized into Peripheral Blood in Patients after Stroke.; 110: 3705.
43. Kucia M, Wysoczynski M, Wu W, Ratajczak MZ. Novel Direct Evidence That Adult Bone Marrow-Derived Very Small Embryonic Like (VSEL) Stem Cells Are Mobilized into Peripheral Blood - Leukopheresis as a Potential Tool To Isolate Pluripotent Stem Cells for Therapeutic Purposes.; 110: 1205.
44. Wysoczynski M, Kucia M, Zuba-Surma E, Wu W, Ratajczak MZ, Ratajczak J. An In Vivo Evidence That the CD45negative Adult Marrow-Derived CXCR4+ SSEA-1+ OCT-4+ Very Small Embryonic-Like (VSEL) Stem Cells May Differentiate into CD45positive Long Term Repopulating Hematopoietic Stem Cells. Blood, 110: 505.
45. Wysoczynski M, Reza R, Wu W, Kucia M, Botto M, Ratajczak J, Ratajczak MZ. The Studies in Various Murine Strains with Defects in Activation of Complement Cascade (CC) Reveal Both Pivotal and Pleiotropic Role of CC in Mobilization of Hematopoietic Stem/Progenitor Cells. 110: 774.
46. Zuba-Surma E, Kucia M, Guo Y, Dawn B, Bolli R, Ratajczak MZ. An In Vivo Evidence That Murine Very Small Embryonic Like (VSEL) Stem Cells Are Mobilized into Peripheral Blood after Acute Myocardial Infarction (AMI) and Contribute to Myocardial Regeneration.; 110: 3694.
47. Wysoczynski M, Wu W, Kucia M, Ratajczak J, Ratajczak MZ. An In Vitro and In Vivo Evidence That Interleukin-8 Is a Pivotal Hypoxia-Regulated Pro-Angiopoietic Factor Secreted by Human Rhabdomyosarcomas (RMS) - Therapeutic Implications; 110: 3720.
48. Wang Z, Jung J, Kucia M, Song J, Shiozawa Y, Ratajczak MZ, Krebsbach PH, Taichman R. Prospective In Vivo Identification of Osteogenic Stem/Progenitor Cells from Bone Marrow-Derived Lin-/Sca-1+/CD45- Cells.; 110: 1409.

American Society of Hematology, 50th annual meeting, San Francisco, 2008

49. Shin DM, Zuba-Surma E, Ratajczak MZ, Kucia M. The Unique Pattern of Somatic Imprint in Oct-4+ Very Small Embryonic Like (VSEL) Stem Cells Isolated from Adult Tissues Further Supports Both Their Epiblast/Germ Line Origin and Explains Quiescent Status: Potential Modification of Somatic Imprint as a Key to Longevity? Blood, 112: 385.
50. Zuba-Surma E, Kucia M, Klich I, Greco N, Laughlin ML, Paul P, Ratajczak MZ, Ratajczak J. Optimization of Isolation and Further Molecular and Functional Characterization of SSEA-4+/Oct-4+/CD133+/CXCR4+/LINneg/CD45neg Very Small Embryonic-Like (VSEL) Stem Cells Isolated from Umbilical Cord Blood. Blood, 112: 2316.
51. Zuba-Surma E, Kucia M, Liu R, Ratajczak MZ, Ratajczak J. CD45-/ALDHlow/SSEA-4+/Oct-4+/CD133+/CXCR4+/Lin- Very Small Embryonic-Like (VSEL) Stem Cells Isolated from Umbilical Cord Blood as Potential Long Term Repopulating Hematopoietic Stem Cells. Blood; 112: 2444.
52. Wojakowski W, Tendera M, Kucia M, Zuba-Surma E, Paczkowska E, Ciosek J, Halasa M, Krol M, Kazmierski M, Ochala A, Ratajczak J, Ratajczak MZ. Clinical Evidence That Oct-4+ ssea-4+ Very Small Embryonic Like Stem Cells (VSEL) Are Mobilized into Peripheral Blood in Patients with Acute Myocardial Infarction (AMI): A Novel Prognostic Indicator. Blood, 112: 2894.



53. Wu W, Lee H, Wysoczynski M, Kucia M, Ratajczak J, Ratajczak MZ. Novel Observation That Mice Lacking the Fifth Complement Cascade Protein Component (C5) Are Very Poor Stem Cell Mobilizers Explained by Defective Egress of Granulocytes: A Novel Role for Bone Marrow Granulocytes to Act as "ice Breaker" Cells in Facilitating Egress of Hematopoietic Stem/Progenitor Cells. *Blood*, 112: 67.

American Society of Hematology, 51th annual meeting, New Orleans, 2009

54. Lee H, Wysoczynski M, Wu W, Liu R, Kucia M, Janowska-Wieczorek A, Ratajczak J, Ratajczak MZ. Novel Mechanistic Insight Into Mobilization of Hematopoietic Stem/Progenitor Cells (HSPCs): Complement Cascade and Membrane Attack Complex Activated in Bone Marrow Sinusoids During Mobilization Release From Erythrocytes Sphingosine-1 Phosphate – An Underappreciated Chemoattractant Executing Egress of HSPCs. *Blood*, 114: 31.
55. Shin DM, Zuba-Surma E, Liu R, Ratajczak MZ, Kucia M. Genetic and Epigenetic Studies Reveal That Murine Oct-4+ Very Small Embryonic/Epiblast-Like Stem Cells (VSELs) Present in Adult Tissues Share Several Similarities/Markers with Epiblast-Derived Migratory Primordial Germ Cells (PGCs). *Blood*, 114: 2521.
56. Klich I, Tarnowski M, Shin DM, Ratajczak J, Kucia M, Ratajczak MZ. Quiescent Status of Very Small Embryonic Like Stem Cells (VSELs) Points to Pivotal Role of Autocrine Role of Insulin-Like Growth Factor-2 (Igf2) – Ras-Activating Guanine Nucleotide Exchange Factor (Rasgrf1) Axis in Regulating Proliferation of Embryonic Stem Cells. *Blood*, 114: 1484.
57. Lee H, Wu W, Wysoczynski M, Kucia M, Laughlin MJ, Ratajczak J, Ratajczak MZ. Granulocyte-Derived Cationic Peptides (GDCCPs) Present in Leucaphoresis Products Enhance Homing of Hematopoietic Stem Cells (HSCs) to SDF-1 Gradient; Potential Implications for Accelerated Recovery of Hematopoiesis after Transplantation of Mobilized Peripheral Blood Stem Cells (PBSC). *Blood*, 114: 371.
58. Medicetty S, Ratajczak MZ, Kucia M, Zuba-Surma E, Klich I, Marasco W, Rodgerson D. Evidence That Human Very Small Embryonic-Like Stem Cells (VSELs) Are Mobilized by G-CSF Into Peripheral Blood: A Novel Strategy to Obtain Human Pluripotent Stem Cells for Regenerative Medicine. *Blood*, 114: 1474.
59. Ratajczak MZ, Shin DM, Zuba-Surma E, Liu R, Yoshimoto M, Yoder M, Kucia M. Very Small Embryonic/Epiblast-Like Stem Cells (VSELs) – Novel Supporting Evidence for An Existence of Developmentally Distinct Mobile Pool of Oct-4 + Pluripotent Stem Cells in Embryonic and Adult Tissues: Emerging Concept for a Potential 4th Migratory Germ Layer. *Blood*, 114: 1480.

Midwest Blood Club Symposium, Indianapolis, May 6-7, 2010

60. Shin DM, Zuba-Surma E, Liu R, Ratajczak MZ, Kucia M. Genetic and epigenetic studies reveal that murine Oct-4+ very small embryonic/epiblast-like stem cells (VSELs) present in adult tissues share several similarities/markers with epiblast-derived migratory primordial germ cells (PGCs).
61. Tarnowski M, Kucia M, Ratajczak MZ. Isolation and functional analysis of CXCR7 promoter - a novel receptor for stromal derived factor-1 (SDF-1): Different regulation of expression in human hematopoietic cells versus pediatric sarcomas.
62. Ratajczak MZ, Shin DM, Zuba-Surma E, Liu R, Yoshimoto M, Yoder M, Kucia M. Very small embryonic/epiblast-like stem cells (VSELs) - novel supporting evidence for an existence of developmentally distinct mobile pool of Oct-4+ pluripotent stem cells in embryonic and adult tissues: emerging concept for a potential 4th migratory germ layer?

American Society of Hematology, 52nd annual meeting, Orlando 2010

63. Tarnowski M, Liu R, Tarnowska J, Ratajczak J, Mitchell R, Ratajczak MZ, Kucia M. Novel Evidence That the Small Chemokine Macrophage Migration Inhibitory Factor (MIF) Is

- Highly Secreted by Human Rhabdomyosarcomas, Activates Both SDF-1-binding Receptors, CXCR4 and CXCR7, and Unexpectedly Inhibits Recruitment of Stromal Cells to the Growing Tumor. *Blood* (ASH Annual Meeting Abstracts), Nov 2010; 116: 3849.
64. Ratajczak J, Wan W, Liu R, Shin DM, Kucia M, Bartke A, Ratajczak MZ. Unexpected Evidence That Chronic IGF-1 Deficiency In Laron Dwarf Mice Maintains High Levels of Hematopoietic Stem Cells (HSCs) In BM - Are HSCs Gradually Depleted From BM with Age In An IGF-1-dependent Manner? Implications for the Novel Effect of Caloric Restriction on the Hematopoietic Stem Cell Compartment and Longevity. *Blood* (ASH Annual Meeting Abstracts), Nov 2010; 116: 1551.
  65. Kim Ch, Wan W, Abdel-Latif A, Wysoczynski M, Kucia M, Ratajczak J, Ratajczak MZ. Evidence That a Bioactive Lipid, Ceramide-1 Phosphate (C1P), Is Upregulated In Bone Marrow Microenvironment After Myeloablative Therapy and Is a Potential Novel Homing Factor for Hematopoietic Stem Cells. *Blood* (ASH Annual Meeting Abstracts), Nov 2010; 116: 401.
  66. Kim Ch, Wan W, Liu R, Kucia M, Laughlin MJ, Ratajczak J, Ratajczak MZ. A Novel Paradigm In Stem Cell Trafficking: The Ratio of Peripheral Blood Sphingosine-1 Phosphate (S1P) to Bone Marrow Ceramide-1 Phosphate (C1P) Regulates Mobilization and Homing of Hematopoietic Stem Cells. *Blood* (ASH Annual Meeting Abstracts), Nov 2010; 116: 554.
  67. Kim Ch, Wan W, Liu R, Kucia M, Ratajczak J, Ratajczak MZ. An Unexpected Role for the Complement C5b-C9 Membrane Attack Complex (MAC) In Trafficking of Hematopoietic Stem/Progenitor Cells - a Novel Unexpected Link Between Innate Immunity and Hematopoiesis. *Blood* (ASH Annual Meeting Abstracts), Nov 2010; 116: 555.

American Society of Hematology, 53rd annual meeting, San Diego 2011

68. Kucia M, Ratajczak J, Liu R, Shin DM, Masternak M, Bartke A, Ratajczak MZ. Novel View on Stem Cell Compartment and Aging - a Number of Pluripotent Very Small Embryonic Like Stem Cells and Hematopoietic Stem Cells in Murine Bone Marrow Is High in Several Long-Living and Reduced in Short-Living Murine Strains and Unexpectedly Inversely Correlates in These Animals with Plasma Growth Hormone/Insulin-Like Growth Factor-1 Level. American Society of Hematology, 53rd annual meeting, San Diego, 2011. *Blood*, 118: LBA-5.
69. Kim Ch, Wu W, Greco NJ, Kucia M, Ratajczak J, Laughlin MJ, Ratajczak MZ. A Novel Perspective on Stem Cell Homing – Emerging Interplay between Bioactive Lipids As Potent Chemoattractants and Cationic Peptides As Underappreciated Modulators of Responsiveness to SDF-1 Gradients. American Society of Hematology, 53rd annual meeting, San Diego, 2011. *Blood*, 118: 2957.
70. Ratajczak J, Liu R, Kucia M, Bartke A, Ratajczak MZ. Long-Term In Vivo Studies in Mice Unexpectedly Reveal That Prolonged Growth Hormone (GH) and Insulin/Insulin-Like Growth Factor-1 (IGF-1) Signaling Have a Negative Effect on Normal Bone Marrow Hematopoiesis – Implications for GH-Based "rejuvenation" Therapies. American Society of Hematology, 53rd annual meeting, San Diego, 2011. *Blood*, 118: 3422.
71. Kim Ch, Liu R, Kucia M, Ratajczak MZ. New Evidence That the Bioactive Lipid Ceramide-1-Phosphate (C1P) Is a Potent Chemoattractant for Mesenchymal Stromal Cells (MSC), Endothelial Progenitor Cells (EPCs) and Very Small Embryonic-Like Stem Cells (VSELs), Demonstrating Its Potential Involvement in Tissue/Organ Repair and Angiogenesis. American Society of Hematology, 53rd annual meeting, San Diego, 2011. *Blood*, 118: 2387.
72. Kucia M, Liu R, Mierzejewska K, Wu W, Ratajczak J, Shin DM, Ratajczak MZ. Single Cell Level Genome-Wide Gene Expression Analysis of Bone Marrow-Derived Oct-4+ very Small Embryonic-Like Stem Cells (VSELs) Revealed That a Polycomb Group Protein Ezh2 Regulates VSELs Pluripotency by Maintaining Bivalent Domains At Promoters of Important Homeodomain-Containing Developmental Transcription Factors. American Society of Hematology, 53rd annual meeting, San Diego, 2011. *Blood*, 118: 2345.

73. Schneider G, Bryndza E, Kim Ch, Ratajczak J, Kucia M, Ratajczak MZ. Novel View on Unwanted Side Effects of Radio-Chemotherapy on Bone Marrow (BM) Microenvironment - Radio-Chemotherapy Upregulates BM-Level of Bioactive Lipids, Sphingosine-1-Phosphate (S1P) and Ceramide-1-Phosphate (C1P), That Chemoattract Metastasizing Cancer Cells. American Society of Hematology, 53rd annual meeting, San Diego, 2011. Blood, 118: 726.

American Society of Hematology, 54th Annual Meeting, Atlanta, USA, 2012

74. Mierzejewska K, Rodriguez C, Sharma VR, Kucia M, Maciejewski JP, Ratajczak J, Ratajczak MZ. A Novel Evidence That PNH Affected Cells Residing in Bone Marrow (BM) Due to Impaired Incorporation of CXCR4 and VLA-4 Into Membrane Lipid Rafts Show Defective SDF-1- and VCAM-1-Mediated Retention in BM What Leads to Their Increased Motility and Impaired Interaction with the BM Stem Cell Niches. American Society of Hematology, 54th Annual Meeting, Atlanta, 2012. Blood, 120: 1256.
75. Ratajczak MZ, Mierzejewska K, Ratajczak J, Kucia M. Novel Evidence That a Quiescent Murine Population of Bone Marrow (BM)-Residing, Developmentally Early, Very Small Sca-1+Lin-CD45- Cells Is Highly Responsive to Prolonged Bleeding by in Vivo Proliferation and Differentiation Into CD45+ Hematopoietic Stem/Progenitor Cells (HSPCs). American Society of Hematology, 54th Annual Meeting, Atlanta, 2012. Blood, 120: 1249.
76. Schneider G, Serwin K, Bryndza E, Kucia M, Ratajczak J, Ratajczak MZ. Studies with Diluted Plasma Reveal the Presence of a Remarkably Potent Factor That Enhances the Motility of Cancer Cells and Is Quenched by Fibrinogen - a Novel View of Cancer Metastasis. American Society of Hematology, 54th Annual Meeting, Atlanta, 2012. Blood, 120: 3431.
77. Mierzejewska K, Kucia M, Ratajczak J, Ratajczak MZ. Novel Evidence That Hematopoietic Stem/Progenitor Cells (HSPCs) Are Mobilized During Hemolysis in an Erythrocyte Lysis-Derived, Sphingosine-1-Phosphate (S1P)-Dependent manner—the Crucial Involvement of Complement Cascade (CC) Activation and Attenuation of CXCR4 Retention Signaling. American Society of Hematology, 54th Annual Meeting, Atlanta, 2012. Blood, 120: 3189.
78. Grymula K, Tarnowski M, Suszynska M, Piotrowska K, Borkowska S, Mierzejewska K, Kucia M, Ratajczak MZ. A Novel View of Bone Marrow As a "stem Cell sensor" of Tissue/Organ Damage -Evidence That in Vivo Exposure to the Neurotoxin Kainic Acid (KA) Induces Proliferation and Neural Specification of Developmentally Early Stem Cells Directly in Bone Marrow Before They Are Mobilized Into Peripheral Blood. American Society of Hematology, 54th Annual Meeting, Atlanta, 2012. Blood, 120: 1192.

American Society of Hematology, 55th Annual Meeting, New Orleans, USA, 2013

79. Kucia M, Maj M, Mierzejewska K, Shin DM, Ratajczak J, Ratajczak MZ. Challenging Dogmas - Or How Much Evidence Is Necessary To Claim That There Is a Direct Developmental and Functional Link Between The Primordial Germ Cell (PGC) Lineage and Hematopoiesis? Blood 2013 122:1215.
80. Mierzejewska K, Abdel-Latif A, Schneider G, Ratajczak J, Kucia M, Ratajczak MZ. Novel Evidence That Sphingosine-1-Phosphate-Mediated Mobilization Of Hematopoietic Stem/Progenitor Cells (HSPCs) During Intravascular Hemolysis Requires Attenuation Of The SDF-1-CXCR4 Retention Axis Of HSPCs In Bone Marrow Niches – Implications For Paroxysmal Nocturnal Hemoglobinuria-Induced Mobilization of HSPCs. Blood 2013 122:2477.
81. Heo J, Shin DM, Mierzejewska K, Suszynska M, Ratajczak M, Kucia M, Ratajczak MZ. New Molecular Evidence That Oct-4 Is Truly Expressed In a Rare Population Of Developmental Early Stem Cells In Human Umbilical Cord Blood (UCB) and That

- Epigenetic Modification Of Imprinting At Igf2-H19 Locus Regulates Their Quiescent State – Potential Implications For Regenerative Medicine. *Blood* 2013 122:2393.
82. Mierzejewska K, Suszynska E, Borkowska S, Suszynska M, Maj M, Ratajczak J, Kucia M, Ratajczak MZ. Novel In Vivo Evidence That Not Only Androgens But Also Pituitary Gonadotropins and Prolactin Directly Stimulate Murine Bone Marrow Stem Cells – Implications For Potential Treatment Strategies In Aplastic Anemias. *Blood* 2013 122:2476.
  83. Borkowska S, Suszynska M, Mierzejewska K, Budkowska M, Salata D, Dolegowska B, Ratajczak J, Kucia M, Ratajczak MZ.
  84. Novel Evidence That Crosstalk Between Three Evolutionarily Ancient Proteolytic Enzyme Cascades (coagulation, fibrinolysis, and complement) Plays An Important Role In Mobilization Of Hematopoietic Stem/Progenitor Cells (HSPCs). *Blood* 2013 122:903.
  85. Ratajczak J, Mierzejewska K, Borkowska S, Kucia M, Ratajczak MZ. Novel Evidence That Human Umbilical Cord Blood-Purified CD133+ cells Secrete Several Soluble Factors and Microvesicles/Exosomes That Mediate Paracrine, Pro-Angiopoietic Effects Of These Cells – Implications For and Important Role Of Paracrine Effects in stem Cell Therapies In Regenerative Medicine. *Blood* 2013 122:1216.

American Society of Hematology, 56th Annual Meeting, San Francisco, USA, 2014

86. Suszynska M, Gunjal P, Poniewierska-Baran A, Borkowska S, Mierzejewska K, Schneider G, Ratajczak J, Kucia M, Ratajczak MZ. Novel Evidence That Murine and Human Mesenchymal Stromal Cells Express Functional Gonadotropic Hormone Receptors, Demonstrating the Involvement of the Pituitary gonadotropin–bone Marrow Axis in Hematopoiesis. Abstract # 1588.
87. Borkowska S, Poniewierska-Baran A, Schneider G, Pedziwiatr D, Suszynska M, Ratajczak J, Kucia M, Ratajczak MZ. Novel Evidence That, in Addition to Proteolytic Enzymes, Lipolytic Enzymes Are Involved in Mobilization of Hematopoietic Stem/Progenitor Cells (HSPCs) - an Important Pro-Mobilizing Role Identified for Hematopoietic-Specific Phospholipase C (PLC $\beta$ 2). Abstract # 2448.
88. Ismail A, Mierzejewska K, Janowska-Wieczorek A, Turner RA, Ratajczak MZ, Kucia M. Novel Evidence That Pituitary Gonadotropins Directly Stimulate Human Leukemic cells—studies on Myeloid Cell Lines and Primary Patient AML and CML Cells. Abstract # 2204.
89. Gunjal P, Schneider G, Kakar S, Kucia M, Ratajczak MZ. Evidence for Induction of a Tumor-Metastasis-Receptive Microenvironment in Bone Marrow and Other Organs As an Unwanted and Underestimated Side Effect of Chemotherapy/Radiotherapy. Abstract # 2925.
90. Poniewierska-Baran A, Schneider G, Ratajczak J, Kucia M, Ratajczak MZ. Novel Evidence That Neuroblastoma and Rhabdomyosarcoma, Two Types of Small Round Blue Cell Tumors, Frequently Infiltrate Bone Marrow and Express Functional Erythropoietin Receptor (EpoR)—therapeutic Implications. Abstract # 4019.