

## **CURRICULUM VITAE – JOSE J MINGUELL, PhD**

Date: October 10, 2009

### **CURRENT POSITION:**

03/2007 - present Scientific Director, TCA Cellular Therapy, LLC, Covington, LA, 70433

### **EDUCATION:**

1957 - 1960 B. S. Biochemistry. University of Chile, Santiago, Chile

1960 - 1963 Ph.D Biochemist, University of Chile, Santiago, Chile

### **POST-GRADUATE TRAINING AND RESEARCH EXPERIENCES:**

University of Glasgow, Department of Steroid Biochemistry. Glasgow, Great Britain. September 1970 to February 1972. Post Doctoral Fellow, The British Council Scholarship.

The Beatson Institute for Cancer Research. Glasgow, Great Britain. November 1971 to February 1972. Post Doctoral Fellow, The British Council Scholarship.

The University of Texas Medical Branch, Department of Internal Medicine, Division of Hematology-Oncology. Galveston, Texas, USA. June 1977 to June 1980. Visiting Professor.

The University of Mississippi Medical Center, Department of Medicine, Jackson, MS, USA. March 1988 to December 1995. Clinical Professor (Research) of Medicine.

### **ACADEMIC POSITIONS / EMPLOYMENT:**

12/1981 - 03/2007 Full professor (Profesor Titular), Department Cell Biology, Instituto de Nutrición y Tecnología de los Alimentos Universidad de Chile. Santiago, Chile.

07/1994 - 03/2007 Director, Laboratory Bone Marrow Transplantation. Clinica Las Condes, Santiago Chile. Clinica Las Condes is accredited by the Joint Commission International (JCI) and affiliated to the Johns Hopkins Medicine International.

12/1968 - 12/1981 Associate Professor, Departments of Cell Biology, Faculty of Veterinary Medicine, Universidad de Chile and Instituto de Nutrición y Tecnología de los Alimentos, Universidad de Chile. Santiago, Chile.

12/1964 - 12/1968 Assistant Professor, Department of Biochemistry, Universidad de Chile, Santiago Chile.

#### **UNIVERSITY APPOINTMENTS AND COMMITTEES:**

1985 - 1998 Scientific Director, Department Cell Biology, INTA. Universidad de Chile.

1985 - 2005 External Advisory Board. PhD Program in Cellular and Developmental Biology, Facultad de Ciencias, Universidad de Chile.

1985 - 1988 External Review Board Program Project Submission in Biotechnology, Universidad de Chile.

1968 - 1970 Director, Department Cell Physiology, Faculty of Veterinary Medicine, Universidad de Chile.

#### **EDITORIAL RESPONSIBILITIES and PROPOSAL for REVIEWS**

2000- present Frequent reviewer of manuscripts for the following journals: Acta Haematologica, Biological Research, Biologica, Biotechnology Progress, Bone Marrow Transplantation, British Journal of Haematology, BMC Cell Biology, Cell and Tissue Research, Circulation, Experimental Biology and Medicine, Experimental Hematology, International Journal of Biochemistry and Cell Biology, Journal Cell Science, Journal of Bone and Mineral Research, Nature, Stem Cells.

1990- present Project Grants peer Review: Fondo de Investigación Científica y Tecnológica, Fondecyt, Chile; Comisión de Investigación Científica, Universidad Austral de Chile, Comisión de Investigación Científica Universidad de Chile; Comisión de Investigación Científica Universidad de Concepción, Chile; Comisión de Investigación Científica, Universidad del Desarrollo, Chile.

#### **MAJOR INVITED INTERNATIONAL LECTURESHIPS (2001 to 2006):**

Uncommitted and committed states of mesenchymal progenitor cells. Invited speaker. International Society for Hemathotherapy and Graft Engineering (ISHAGE) 2001 Annual Meeting. Quebec City, Canada. June 14, 2001.

Mesenchymal (uncommitted) stem cells. Invited speaker. Presented to the Skeletal Biology Section, Craniofacial and Skeletal Diseases Branch NIDCR, NIH, Bethesda, MD USA. August 20, 2002.

Mesenchymal Uncommitted Stem Cells. Invited Speaker. Presented at the International Symposium "Mesenchymal Stem Cells: Biology and Potential Clinical Uses". Valencia, España. October 14-15, 2002

Characterization of uncommitted and committed progenitors from ex-vivo expanded cultures of human bone marrow-derived mesenchymal stem cells. Presented at the 10th Annual Meeting of the International Society for Cellular Therapy. Dublin, Ireland May 10, 2004

Cell therapy. Invited speaker and Faculty. Presented at the First Course of the Latin American School of Human and Medical Genetics, Caxias do Sul, Brazil, May 18, 2005.

Organ Transplantation and Cell Therapy. Invited speaker and Faculty. Presented at the Second Course of the Latin American School of Human and Medical Genetics, Caxias do Sul, Brazil, May 25, 2005.

Stem Cells Therapy. Invited speaker and Faculty. Presented at the Second Course of the Latin American School of Human and Medical Genetics, Caxias do Sul, Brazil, May 20, 2006.

Potential of Mesenchymal Stem Cells to Restore Organ Function. Invited Speaker. Presented as an Invited Speaker to the XXI LIAC "Latinorum Investigatorum de Arteriis Colloquium" Meeting on Vascular Research. Udine, Italy September 7-10, 2005

#### **PROFESSIONAL SOCIETIES:**

1970 - present Chilean Society of Biology

1990 - present Chilean Society of Cell Biology

1990 - 2005 International Society of Experimental Hematology

1995 - 2004 European Haematology Association

#### **INVENTIONS:**

U.S. Patent 6,261,549 (Inventor): 'Human Mesenchymal Stem Cells from Peripheral Blood'. July 17, 2001

U.S. Patent Application (Pending): 11/500,317, Preliminary Class 435 (Inventor): 'Therapeutic use of a combination of autologous mesenchymal stem cells and mononuclear cells'.

#### **MAIN RESEARCH INTEREST (1995 - present)**

General: Adult stem cells and their use in therapy

Specific: Biology of mesenchymal stem cells, adult bone marrow and cord blood stem cell. Utilization of mesenchymal stem cells in the treatment of cardiac diseases.

### Basic, preclinical and clinical studies:

Cell culture (In vitro) studies for the cellular and molecular assessment of the biological properties of human mesenchymal stem cells. These studies include analysis of the growth, differentiation and immuno-phenotype of mesenchymal stem cells.

Preclinical studies, using the mice and dog model, have been designed to assess the transplantation ability of mesenchymal stem cells.

One clinical was initiated to test the feasibility and safety of the intramyocardial injection of autologous mesenchymal stem cells to MI patients. This study was performed at Clinica Las Condes (05/2004-01/2007)

Five clinical trials, FDA-approved, are in progress (NCT00548613, NCT00518401, NCT00721006, NCT00790764, NCT00643981) and performed at TCA Cellular Therapy, Covington La, 70433.

### **RESEARCH SUPPORT:**

#### **Main Research Projects Completed:**

#### **1968 to 2006 (Principal or Co- Investigator.)**

1. National Council for Scientific and Technological Research, CONICYT, Chile. (Comisión Nacional de Investigación Científica y Tecnológica, CONICYT, Chile) Project # 104-68. 1968 – 1973.
2. Latin American Program for Research in Human Reproduction (PLAMIRH). (Programa Latinoamericano Investigación en Reproducción Humana PLAMIRH), Cali, Colombia. Grant 28.81.2.76. 1976-1979
3. National Cancer Institute. USA. Grant 5R01 CA 19997-02, 1978.
4. National Institute of Health, USA. General Research Center, Program of the Division of Resources. Grant DHEW RR - 73., 1978-1979.
5. John A. Hartford Foundation, USA Grant 1-19511-488204. 1979
6. American Cancer Society, USA. Institutional Research Grant IN 112. 1980.
7. Universidad de Chile, Department of Scientific Research (Departamento de Desarrollo de la Investigación), Santiago, Chile Projects #, B-1320-8112,1981; B1328-8222, 1982; B63-8312, 1983.
8. National Council for Scientific and Technological Research, CONICYT, Chile. Projects #1041-83-1983; 0176-1984; 1129-85-1985 to 1987; 89-990. 1989 to 1991; 91-1067, 1991 to 1992; 92-1071, 1992 to 1994; PI -10, 1992 to 1996; 1950-238, 1995 to 1996; 1950-238, 1997 to 1999; 101-0566, 2001 to 2003; 103-0304, 2003 to 2006.

9. Andes Foundation, Chile (Fundación Andes, Chile). Project # C-11894, 1991
10. VITAE Foundation (Fundacao VITAE), Brazil). Project # B-11487/4B001, 1995 to 1996; CRP/CHI 97-01(a1) 1998-2000.
11. Clinica Las Condes, Santiago, Chile. Research Projects #03-2000; 08-2003.

## **BIBLIOGRAPHY**

### **Peer Reviewed Manuscripts**

1. Minguell, J.J.: Efecto in vitro de extractos libres de células de tejidos de rata sobre la biosíntesis de ácidos nucleicos de medula ósea. Anales de la Facultad de Bioquímica. Universidad de Chile, Vol. XV: 23-43, 1963.
2. Minguell, J. J., Pieber-Perretta, M., and Perretta, M.: The effect of cell free-extracts from several rat tissues on the biosynthesis of nucleic acids in the rat bone marrow. Arch. Biol. Med. Exp. 1:220-226, 1964.
3. Perretta, M., Pieber-Perretta, M. and Minguell, J.J.: Glucose effect on the uptake of 14-C formate by the nucleic acids of rat bone marrow, in vitro. Arch. Biochem. Biophys. 105: 449-452, 1964.
4. Perretta, M., Pieber-Perretta, M., and Minguell, J. J.: The metabolism of nucleic acids in rat bone marrow. Biochem. Biophys. Acta. 95:517-520, 1965.
5. Minguell, J. J. and Perretta, M.: Ribonuclease activity in rat bone marrow. Biochem. Biophys. Acta. 142: 545-548, 1967.
6. Minguell, J. J., Salinas, F., and Perretta, M.: Nucleic acids metabolism in the embryonic rat liver. Growth, 33: 217-222, 1969.
7. Sierralta, W. and Minguell, J.J.: Ribonuclease activity in the rat bone marrow nuclei. Biochem. Biophys. Res. Comm. 41:50-56, 1970.
8. Minguell, J.J., Garavagno, A. and Yáñez, J.: Effect of testosterone on the nucleic acid metabolism of rat bone marrow cells. Proc. Soc. Exp. Biol. Med. 138: 438-440, 1971.
9. Ruiz, F. and Minguell, J.J.: Metabolism of nucleic acids in the bone marrow of rats bearing tumor tissue of testicular origin. Growth, 35: 91-96, 1971.
10. Minguell, J.J. and Grant, J.K.: Rat bone marrow cells: Androgen metabolism and actions at the molecular levels. J. Steroid. Biochem. 3: 803, 1972.
11. Minguell, J.J., et al.: Molecular mechanism of the erythropoietic process. Acta Physiol. Latin Amer. 23: 543-550, 1973.
12. Sierralta, W., González, M.C. and Minguell, J.J.: The effect of testosterone on rat bone marrow nuclear ribonucleic acid. J. Steroid Biochem. 5: 645-648, 1974.

13. Minguell, J. J. and Valladares, L.: The molecular mechanism of action of testosterone in rat bone marrow. *J. Steroid Biochem.* 5: 649-654, 1974.
14. Valladares, L. and Minguell, J.J.: Characterization of a nuclear receptor for testosterone in rat bone marrow. *Steroids*, 25: 13-21, 1975.
15. Minguell, J.J. and Sierralta, M.: Molecular mechanism of action of the male sex hormones (review by request of the Editorial Board) *J. Endocrinology* 65: 287-315, 1975.
16. Perretta, M., Valladares, L., Romero, C., Sierralta, W., Valenzuela, A., Spencer, E., Cañas, P., and Minguell, J.J.: Hormone action on the cell nucleus: Effect of erythropoietin and testosterone on bone marrow. *Arch. Biol. Med. Exper.*, 10: 35-40, 1976.
17. Minguell, J.J., Valladares, L., Valenzuela, D., Cañas, P., Garrido, F., and Perretta, M.: Regulación hormonal de la eritropoyesis. *Rev. Med. Chile*, 104: 925-933, 1976.
18. Valladares, L., Cañas, P. and Minguell, J.J.: Bone marrow ribonucleic acid polymerase. Effect of testosterone on nucleotide incorporation into nuclear RNA. *Nucleic Acids Res.*, 3: 3077-3086, 1976.
19. Minguell, J.J., Bolton, L., Helmer, R.E. and Gardner, F.H.: Preparative separation of nucleated cells from human bone marrow. *Experientia*, 35: 548, 1979.
20. Minguell, J.J., Merino, J., Valladares, L.E., and Troncoso R.: Sex-hormone binding globulin in the plasma of normal men and in patients with benign prostatic hypertrophy. *Archives of Andrology*, 3: 167-171, 1979.
21. Carpentieri, V., Buck, E.D., Minguell, J.J., Balachandran, S. and Haggard, M.E.: Ferrochelataze deficiency in an infant with anemia and growth delay. *Pediatrics*, 63: 757-760, 1979.
22. Minguell, J.J., Helmer, R.E., Lee, S. and Gardner, F.H.: Isolation of human bone marrow myeloid cells by ion exchange filtration. *Exper. Hematol.* 8: 3-5, 1980.
23. Carpentieri, V., Minguell, J.J. and Haggard, M.E.: Variation of activity of protein kinase in unstimulated and phytohaemagglutinin-stimulated normal and leukemic human lymphocytes. *Cancer Res.* 40: 2714-2718, 1980.
24. Carpentieri, V., Minguell, J.J. and Gardner, F.H.: Adenylate cyclase and guanylate cyclase activity in normal and leukemic human lymphocytes. *Blood* 57, 975-978, 1981.
25. Minguell, J.J., Lee, S., Helmer III., R.E. and Gardner, F.H.: The uptake of etiocholanolone by human bone marrow immature granulocytes. *Am. J. Hematol.* 12: 149-156, 1982.
26. Juneja, H.S., Williams, W.C. Minguell, J.J., Bessman, J.D., Weiss, G.B. and Gardner, F.H.: Growth of human malignant micromegakaryocytes in vitro. *Exp. Hematol.* 4: 404-412, 1982.
27. Minguell, J.J., Martínez, J. and Walter, T.: Effect of hydrocortisone on the growth of human bone marrow fibroblasts. *Brit. J. Haematol.* 52: 307-310, 1982.

28. Minguell, J.J.: Bone marrow stroma and disease. Arch. Biol. Med. Exp. 15: 457-463, 1982.
29. Minguell, J.J. and Martínez J.: Growth pattern and function of bone marrow fibroblasts from normal and acute lymphoblastic leukemia patients. Exp. Hematol. 11: 522-526, 1983.
30. Martínez, J., Cañas, P.E. and Minguell, J.J.: The effect of androgens on DNA synthesis by fetal hemopoietic stromal cells. Growth, 47: 201-206, 1983.
31. Juneja, H.S., Gardner, F.H., Minguell, J.J. & Helner, R.E.: Abnormal marrow fibroblasts in aplastic anemic. Exp. Hematol. 12, 221-220, 1984.
32. Bruzzone, M.S. & Minguell, J.J.: Bone marrow fibroblasts in acute lymphoblastic leukemia. Acta Haematologica 73: 75-79, 1985.
- 33.- Minguell, J.J. and Bruzzone, M.S.: Regulation of hydrocortisone binding sites by hydrocortisone in human bone marrow fibroblasts. Int. J. Cell Cloning 4: 43-50, 1986
34. Martínez, J. and Minguell, J.J.: Triglyceride synthesis by human bone marrow fibroblasts. Exp. Hematol. 35: 15, 221-225, 1987.
35. Fernández, M. and Minguell, J.J.: Collagen synthesis by human bone marrow fibroblasts. Experientia 43: 1223-1225, 1987.
36. Minguell, J.J., Fernández, M., Tetas, M., Martínez, J., Bruzzone, M. & Rodríguez, J.P.: Microambiente Hematopoyético: Elementos celulares y de matriz extracelular. Arch. Biol. Med. Exp. 21: 171-182, 1988.
37. Irie, S., Minguell, J.J. and Tavassoli M.: Analysis of the microheterogeneity of the glycan chain of rat transferrin. Biochem Intern 17, 1079-1085, 1988.
38. Rodríguez, J.J. and Minguell, J.J.: "Synthesis of extracellular matrix components by somatic testicular cells from immature and pubertal rats. Int. J. Andrology 12, 231-239 (1989). 1989.
39. Minguell, J.J. & Tavassoli M.: Proteoglycan synthesis by hemopoietic progenitor cells. Blood 73, 1821-1827, 1989.
40. Irie, S., Minguell, J.J. and Tavassoli, M.: Relationship of the glycan structure of glycoproteins to the desialylation process by rat liver endothelium. Bichem. Inter.19. 345-352,1989.
41. Rodriguez, J.P. and Minguell, J.J.: Synthesis of proteoglycans and hyaluronic acid by long-term cultures of testicular cells from immature and puberal rats. Cell Biochem. and Function 7, 293-300, 1989.
42. Fernandez, M., Barahona, C., Martinez, J. and Minguell, J.J.: Changes in collagen synthesis by human bone marrow fibroblasts with progressive subcultivation. Exp. Cell Biol. 57,257-263, 1989.

43. Irie, S., Minguell, J.J. and Tavassoli, M.: Comparison of desialylation of rat transferrin by cellular and non-cellular methods. *Biochem J.* 259, 427-431, 1989.
44. Fernández, M, Martínez, J. and Minguell, J.J.: Collagenase-like activity associated to the leukemic WEHI-3B cell line. *Leukemia Res.* 14, 661-666, 1990.
45. Omoto, E., Minguell, J.J. and Tavassoli, M.: Proteoglycan synthesis by cultured liver endothelium: The role of membrane-associated heparan sulfate in transferrin binding. *Exp. Cell Res.* 187, 85-89, 1990.
46. Tavassoli, M., Hardy, C.L., Aizawa, S., Matsuoka, T. and Minguell, J.J.: Molecular mechanism of hemopoietic stem cell binding to the supportive stroma. *Progress Clinical and Biological Res.* 352, 87-95, 1990.
47. Tavassoli, M. and Minguell, J.J.: Homing of hemopoietic progenitor cells to the marrow. *Proc. Soc. Exp. Biol. Med.* 196, 367-373, 1991.
48. Tavassoli, M., Konno, M., Shiota, Y., Omoto, E., Minguell, J.J. and Zanjani, E.D.: Enhancement of the grafting efficiency of transplanted marrow cells by preincubation with interleukin-3 and granulocyte-macrophage colony stimulating factor. *Blood* 77, 1599- 1606, 1991.
49. Rodríguez, J.P., Fernández, M. and Minguell, J.J.: Interstitial collagen synthesis by somatic testicular cells in culture. *Cell Biochem. Func.* 9: 63-67, 1991.
50. Rodríguez JP. and Minguell, J.J.: Collagen Increases the Synthesis of Membrane-Associated Proteoglycans Produced by Sertoli Cells. *J. Cellular Biochemistry* 50: 21-25, 1992.
51. Shiota Y, Minguell J.J., Zanjani ED. and Tavassoli M.: Induction of up modulation of homing receptors in cloned hemopoietic progenitors by growth factors. *Bone Marrow Transplantation* 9: 123-127, 1992.
52. Minguell, J.J., Hardy C. and Tavassoli M.: Membrane-associated chondroitin sulfate proteoglycan and fibronectin mediate the binding of hemopoietic progenitor cells to stromal cells. *Exp. Cell Research* 201: 200-207, 1992.
53. Shiota, T., Minguell J.J. and Tavassoli, M.: Expression of chondroitin sulfate as a unique type of proteoglycan on the cell membrane of multipotential and committed hemopoietic progenitor cells. *Biochem. Biophys. Acta* 1136: 17-22, 1992.
54. Rodríguez, J.P., Minguell, J.J.: Membrane-associated proteoglycans produced by sertoli cells are not randomly distributed on the cell surface. *Eur. J. Cell Biol.* 59:348-351, 1992
55. Omoto, E., Minguell, J.J. and Tavassoli, M: Endothelial Transcytosis of Iron-Transferrin in the Liver Does Not Involve Endosomal Traffic. *Pathobiology* 60: 284-288, 1992.
56. Minguell, J.J. Is hyaluronic acid the "organizer" of the extracellular matrix in marrow stroma?. *Exp. Hematol.* 21: 7-8, 1993.

57. Minguell, J.J. and Hardy C.: Restorative effect of IL-3 on adherence of cloned hemopoietic progenitor cell to stromal cell. *Exp. Hematol.* 21:55-60, 1993.
58. Hardy, C.L., Minguell, J.J.: A cytoadhesion assay for the binding of cloned hematopoietic progenitor cells to stroma. *Exp. Hematol.* 21, 283-288, 1993.
59. Minguell, J.J., Hardy, CH., Tavassoli, M.: Adhesive interaction of hemopoietic progenitor cell membrane with the RGD domain of fibronectin. *Biochim. Biophys. Acta* 1151: 120-126, 1993.
60. Chichester, C.O., Fernández, M., Minguell, J.J.: Extracellular matrix gene expression by human bone marrow stroma and by marrow fibroblast. *Cell Adh. and Commun.* 1, 93-99, 1993.
61. Hardy, C.L. and Minguell, J.J.: Cellular interactions in hemopoietic progenitor cell homing. *Scan. Microscopy Intern.* 7 : 333-341, 1993.
62. Conget, P. and Minguell, J.J.: Modifications in the synthesis of membrane-associated chondroitin sulfate proteoglycans in hemopoietic progenitor cells are accompanied by alterations in their adhesive properties. *J. Cellular Physiol.* 159: 142-150, 1994.
63. Fernández, M., Minguell, J.J.: Procedimientos ex vivo asociados al trasplante autólogo de células troncales hematopoyéticas. *Rev. Méd. Chile* 122: 699-704, 1994.
64. Conget, P., Minguell, J.J.: IL-3 increases surface proteoglycan synthesis in haemopoietic progenitors and their adhesiveness to the heparin-binding domain of fibronectin. *Brit. J. Haematol.* 89: 1-7, 1995.
65. Rodriguez, J.P., Conget, P. and Minguell, J.J.: The sulfation degree of membrane-associated proteoglycan from a hemopoietic cell line is determined by changes in the growth state of the cell. *Eur. J. Cell Biol.* 67: 261-266, 1995.
66. Hardy, C.L. and Minguell, J.J.: Modulation of the adhesion of hemopoietic progenitor cells to the RGD site of fibronectin by Interleukin 3. *J. Cell. Physiol.* 164: 315-323, 1995.
67. Gallardo, J., Comparini, B., Yañez, M., Fodor, M., Minguell, J.J., Fernandez, M., Walter, T.: Quimioterapia de altas dosis con trasplante de médula ósea en cáncer de testículo. *Rev. Hosp. Clínico Univ. Chile.* 6, 18-26, 1995.
68. Fernandez, M., Minguell, J.J. Adhesive interactions in the hematopoietic system: Regulation by cytokines. *Proc. Soc. Exp. Biol. Med.* 212, 313-323, 1996.
69. Fernandez, M., Minguell, J.J. Role of collagen in hematopoiesis. *Braz. J. Med. Biol. Res.* 29, 29, 1201-1207, 1996.
70. Conget, P., Fernandez, M., Herrera, G., Minguell, J.J.: Cryopreservation of rainbow trout spermatozoa using programmable freezing. *Aquaculture* 143, 319-329, 1996.
71. Fernandez, M., Minguell, J.J. G-CSF regulates the expression of mRNA for collagen type VI and collagen VI production in human bone marrow stromal cell. *Hematology*, 2, 219-228, 1997.

72. Fernandez, M., Minguell, J.J. Hydrocortisone regulates types I and III collagen gene expression and collagen synthesis in human bone marrow stromal cells. *Biol Res.* 30, 85-90, 1997.
73. M. Fernandez, V. Simon, G. Herrera, C. Cao, H. del Favero, J.J. Minguell. Detection of stromal cells in peripheral blood progenitor cell collections from breast cancer patients. *Bone Marrow Transplant.* 20, 265-271, 1997.
74. Conget, P, Minguell, JJ. Phenotypical and Functional properties of human bone marrow mesenchymal progenitor cells. *J. Cell Physiol.* 181-67-73, 1999.
75. Erices A, Conget P, Minguell JJ. Mesenchymal progenitor cells in human umbilical cord blood. *British J. Hematol.* 109, 235-242, 2000.
76. Moreno CJ, Epuñan MJ, Minguell JJ. Expression of transmembrane and soluble forms of CD44H in human myeloid cell lines and its regulation by hyaluronic acid. *Haematology* 85, 321-322, 2000.
77. Hombauer H, Minguell JJ. Selective interactions between epithelial tumor cells and bone marrow mesenchymal stem cells. *Brit. J. Cancer.* 82, 1290-1296, 2000.
78. Conget, P, Minguell, JJ. Adenoviral-mediated gene transfer into ex vivo expanded human bone-marrow mesenchymal progenitor cells. *Exp. Hematol.* 28, 382-390, 2000.
79. Fernandez M, Simon V, Minguell JJ. Production of soluble CD34 by human myeloid cells. *Brit. J. Haematol.* 111, 426-431, 2000.
80. Minguell JJ, Conget P, Erices A. Biology and clinical utilization of mesenchymal progenitor cells. *Braz. J. Med. Biol. Res.* 33, 881-887, 2000.
81. Minguell JJ, Erices A, Conget P. Mesenchymal stem cells. *Exp Biol Med (Maywood).* 226, 507-520, 2001.
82. Conget PA, Allers C, Minguell JJ. Identification of a discrete population of human bone marrow-derived mesenchymal cells exhibiting properties of uncommitted progenitors. *J Hematother Stem Cell Res.* 10, 749-758, 2001.
83. Erices A, Conget P, Rojas C, Minguell JJ. Gp130 activation by soluble interleukin-6 receptor/interleukin-6 enhances osteoblastic differentiation of human bone marrow-derived mesenchymal stem cells. *Exp Cell Res.* 280, 24-32, 2002
84. Erices AA, Allers CI, Conget PA, Rojas CV, Minguell JJ. Human cord blood-derived mesenchymal stem cells home and survive in the marrow of immunodeficient mice after systemic infusion. *Cell Transplant.* 12, 555-561, 2003
85. Benavente CA, Sierralta WD, Conget PA, Minguell JJ. Subcellular distribution and mitogenic effect of basic fibroblast growth factor in mesenchymal uncommitted stem cells. *Growth Factors.* 21, 87-94, 2003.

86. Allers C, Sierralta WD, Neubauer S, Rivera F, Minguell JJ, Conget PA. Dynamic of distribution of human bone marrow-derived mesenchymal stem cells after transplantation into adult unconditioned mice. *Transplantation*. 27, 503-508, 2004
87. Santa Maria L, Rojas CV, Minguell JJ. Signals from damaged but not undamaged skeletal muscle induce myogenic differentiation of rat bone-marrow-derived mesenchymal stem cells. *Exp Cell Res*. 300, 418,426, 2004.
88. Fierro FA, Sierralta WD, Epanan MJ, Minguell JJ. Marrow-derived mesenchymal stem cells: role in epithelial tumor cell determination. *Clin Exp Metastasis*. 21, 313-319, 2004.
89. Florenzano F, Minguell JJ. Autologous mesenchymal stem cell transplantation after acute myocardial infarction. *Am J Cardiol*. 95, 35, 2005
90. Minguell JJ, Fierro FA, Epanan MJ, Erices AA, Sierralta WD. Nonstimulated human uncommitted mesenchymal stem cells express cell markers of mesenchymal and neural lineages. *Stem Cells Dev*.. 14, 408-414, 2005.
91. Minguell JJ, Erices A. Mesenchymal stem cells and the treatment of cardiac disease. *Exp Biol Med* 231, 39-49, 2006.
92. Rivera FJ, Sierralta WD, Minguell JJ, Aigner L. Adult hippocampus derived soluble factors induce a neuronal-like phenotype in mesenchymal stem cells. *Neurosci Lett*. 406, 49-54, 2006.
93. Lasala GP, Minguell JJ. Bone marrow-derived stem/progenitor cells: their use in clinical studies for the treatment of myocardial infarction. *Heart Lung Circ*. 18, 171-80, 2009.

## **Chapters**

1. Grant JK, Fell GS, Minguell J. Zinc and the prostate in man. In *Normal and Abnormal Growth of the Prostate*. Poland M. (Ed). Illinois: CA Thomas Publisher, 494-499, 1975.
2. Juneja HS, **Minguell JJ**, Gardner FH, Helmner RE, Lee S. The effect of dexamethasone on the growth of bone marrow fibroblasts in aplastic anemia. In *Mielofibrosis and the Biology of Connective Tissue*. New York: Alan R. Liss 265-274, 1984
3. Tavassoli M, Hardy CL, Aizawa S, Matsuoka T, **Minguell JJ**. Molecular mechanism of hemopoietic stem cell binding to the supportive stroma. In: *The Biology of Hemopoiesis*. Dainiak N, Cronkite EP, McCaffrey R, Shadduck RK (Eds.). New York: Wiley-Liss, 87-96, 1990.
4. Fernández M, Minguell JJ. Autologous transplantation of hematopoietic stem cells. In *Hematology: Diagnosis and Therapy*. Osorio G et al. (Eds). Santiago: Editorial Mediterráneo, 192-198, 1997
5. Minguell JJ. Biological Therapies. In *Hematology: Diagnosis and Therapy*. Osorio G et al. (Eds). Santiago: Editorial Mediterráneo, 199-205, 1997.
6. Minguell JJ, Erices A, Conget P, Sierralta W, Rojas CV, Allers C, Fierro F, Rivera F. Mesenchymal (uncommitted) Stem Cells. In: *Mesenchymal stem cells: Biology and potential*

clinical uses. Grisiolia S, Minana MD, Bendala-Tufanisco E (Eds). Madrid:Ministerio Sanidad y Consumo, 11-36, 2002.

7. Minguell JJ, Erices A. Stem Cells in the Bone Marrow. In: Hematology: Physiopatology and Diagnosis. Palomo G, Pereira J, Palma J (eds). Talca, Chile: Editorial Universidad de Talca, 12-21, 2005.

8. Minguell JJ, Erices A, Sierralta WD. Uncommitted progenitors in cultures of bone marrow-derived mesenchymal stem cells. In, Genetic Engineering of Mesenchymal Stem Cells. Nolta, Jan A. (Ed.). Springer, 127-134, 2006.

9. Minguell JJ. Mesenchymal stem cells in umbilical cord blood. In: Regenerative Medicine Using Pregnancy-Specific Biological Substances. Bhattacharya, Niranjana; Stubblefield, Phillip (Eds.), Springer 2011, XVI, 464 p. 95 illus., 50 in color. ISBN: 978-1-84882-717-2

### **KEY ACCOMPLISHMENTS RELATED WITH THE WORK PERFORMED**

A) More than 90 publications in International peer reviewed Journals. The complete list of publications is shown in this CV (Bibliography, Peer Reviewed Manuscripts).

List of publications including links and citations can be found at <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=pubmed>; then click search PubMed for Minguell JJ.

B) Clínica Las Condes, the leading private medical provider in Chile with more than 400 of the best doctors in the country, has paid special interest to offer patients the advantages of new biomedical technologies. Dr Minguell has been the founder and Director (1994 to present) of the Bone Marrow Transplantation and Stem Cell Therapy Unit. Work at this Unit includes all process associated with the isolation, immunophenotypical (Flow Citometry) and cryopreservation of bone marrow- and peripheral blood derived- hematopoietic stem cells for use in autologous and allogeneic transplants. In addition, research activities are in progress to study the utilization of adult mesenchymal and epithelial stem cells in cell therapy, oriented to the repair damaged cardiac muscle and cornea tissues, respectively.

Additional information on the work performed at this Clinical Unit can be found at [http://www.clc.cl/area\\_academica/reuniones\\_clinicas/conferencia\\_drminguell/](http://www.clc.cl/area_academica/reuniones_clinicas/conferencia_drminguell/)

C) Dr Minguell was Awarded the "Conference and Medal Dr. H Niemeyer" for outstanding contribution to the development of Cell Biology and Cell Therapy in Chile. This recognition was presented at the 45<sup>th</sup> Annual Meeting of the Chilean Society of Biology (November 12-16, 2002, Puyehue, Chile). The abstract of Dr. Minguell's lecture can be found at *Biol. Res.*, 2002, vol.35, no.3-4, p 447-449.

D) As indicated in the NIH Compendium Of Scientific Publications Regarding the Isolation and Characterization Of Stem Cells (<http://stemcells.nih.gov/staticresources/info/scireport/PDFs/appendixd.pdf>, page 21), the world's first report related with the presence, isolation and characterization of mesenchymal stem cells in human cord blood, was performed at Dr. Minguell's Lab in Santiago, Chile (see this CV: Bibliography, Peer Reviewed Manuscripts, Ref's 75 and 84).

E) As a recognition of Dr. Minguell's major scientific contribution to the development of the field of adult mesenchymal stem cells, he is frequently invited to judge the work of others in the same field of specialization. Accordingly, he has reviewed scientific work submitted to International scientific journals, as: Acta Haematologica, Biological Research, Biologica, Biotechnology Progress, Bone Marrow Transplantation, British Journal of Haematology, BMC Cell Biology, Cell and Tissue Research, Circulation, Experimental Biology and Medicine, Experimental Hematology, International Journal of Biochemistry and Cell Biology, Journal Cell Science, Journal of Bone and Mineral Research, Nature, Stem Cells.