

Michael Centrella, PhD

Professor

Section of Plastic Surgery

Department of Surgery

Yale University School of Medicine

330 Cedar Street

P.O. Box 208041

New Haven, CT 06520-8041

office telephone: 203/785-4927

laboratory telephone: 203/785-2571 or 203/785-6903

Fax (administrative office): 203/785-5714

email: michael.centrella@yale.edu

EDUCATION

The University of Connecticut, 1974, BA

University of Rochester School of Medicine, 1978, PhD

SOCIETIES

American Society for Bone and Mineral Research

American Society for Cell Biology

American Society for Microbiology

Endocrine Society

REVIEW BOARDS/STUDY SECTIONS

NICHHD (special board), 1988

Allegheny-Singer Research Institute, 1988-1991

National Osteoporosis Foundation, 1988-1992; 1996

NIDR (Oral Biology and Medicine 2; ad hoc) 1990

Merit Review Board (Endocrinology) Department of Veterans Affairs (ad hoc) 1990-1991, and multiple years after 1995

Merit Review Board (Endocrinology) Department of Veterans Affairs, member 1992-1995; chair, 1994-1995

U.S.-Israeli Bi-national Research Foundation 1992

NIDDK (special board) 1992

NSF (special board) 1995

Medical Research Council of Canada (ad hoc) 1995, 1996, 1998, 2000, 2001

NIAMS (special board) 1996-97

Telethon (Italy; ad hoc) 1998-1999

The Arthritis Society (Canada; ad hoc) 2002

COMMITTEES

Yale University, Department of Surgery Space Committee 1993-present

Yale University, Department of Surgery Resident Handbook Committee 1994

Yale University, Department of Surgery Ohse Research Committee, 1994-present

Yale University, Department of Surgery Medical Student Thesis Committee, 1994-present
Program Committee, ASBMR, multiple years

APPOINTMENTS

1978-1979: Post-doctoral, Dept. of Biochemistry, Univ. Rochester School of Medicine, Rochester NY

1979-1980: Instructor, Dept. of Biochemistry, Univ. of Rochester School of Medicine, Rochester NY

1980-1982: Research Fellow, Dept. of Biology, Univ. of Connecticut, Storrs CT

1982-1989: Assistant Professor, Dept. of Medicine, Univ. of Connecticut School of Medicine, Farmington CT

1989-1992: Associate Professor, Dept. of Medicine, Univ. of Connecticut School of Medicine, Farmington CT

1992-present: Director of Research, Plastic Surgery Section, Yale University School of Medicine, New Haven CT

1993-1999: Associate Professor, Dept. of Surgery, Yale University School of Medicine, New Haven CT

1996-1998: Associate Professor (adjunct), Quinnipiac College School of Health Sciences, Hamden CT

1999-present: Professor, Dept. of Surgery, Yale University School of Medicine, New Haven CT

PUBLICATIONS

PEER-REVIEWED RESEARCH REPORTS AND REVIEW ARTICLES

1. Centrella, M. (1978) Effects of amino acid deprivation on SV40 transformed 3T3 mouse fibroblasts. PhD thesis, the University of Rochester School of Medicine, Rochester, NY 14642

2. Henshaw, E. C., M. Centrella, W. Mastropaolo, K. E. Smith, S. T. Wong (1980) Regulation of protein synthesis in Ehrlich ascites tumor cells in culture. *Biochem. Soc. Trans.* 8:286-287.

3. Centrella, M., J. Lucas-Lenard (1982) Regulation of protein synthesis in vesicular stomatitis virus-infected mouse L-929 cells by decreased protein synthesis initiation factor 2 activity. *J. Virol.* 41:781-791.

4. Canalis, E., M. Centrella, M. Urist (1985) Effect of partially purified bone morphogenetic protein on DNA synthesis and cell replication in calvarial and fibroblast cultures. *Clin. Orthop.* 198:289-296.

5. Centrella, M., E. Canalis (1985) Transforming and nontransforming growth factors are present in culture medium conditioned by fetal rat calvariae. *Proc. Natl. Acad. Sci. USA* 82:7335-7339.

6. Centrella, M., E. Canalis (1985) Local regulators of skeletal growth: a perspective. *Endocrine Rev.* 6:544-551.

7. Canalis, E., M. Centrella (1986) Isolation of a nontransforming bone derived growth factor from medium conditioned by fetal rat calvariae. *Endocrinology* 118:2002-2008.

8. Centrella, M., J. Massague, E. Canalis (1986) Human platelet-derived transforming growth factor beta stimulates parameters of bone growth in fetal rat calvariae. *Endocrinology* 119:2306-2312.
9. Centrella, M., E. Canalis (1987) Isolation of EGF-dependent transforming growth factor (TGF β -like) activity from culture medium conditioned by fetal rat calvariae. *J. Bone Min. Res.* 2:29-36.
10. Centrella, M., T. L. McCarthy, E. Canalis (1987) Transforming growth factor beta is a bifunctional regulator of replication and collagen synthesis in osteoblast-enriched cell cultures from fetal rat calvariae. *J. Biol. Chem.* 262:2869-2874.
11. Insogna, K. L., E. C. Weir, T. L. Wu, A. F. Stewart, A. E. Broadus, W. J. Burtis, M. Centrella (1987) Co-purification of transforming growth factor β -like activity with PTH-like and bone-resorbing activities from a tumor associated with humoral hypercalcemia of malignancy. *Endocrinology* 120:2183-2185.
12. Canalis, E., T. McCarthy, M. Centrella (1987) A bone-derived growth factor isolated from rat calvariae is β_2 microglobulin. *Endocrinology* 121:1198-1200.
13. Centrella, M., T. L. McCarthy, E. Canalis (1987) Mitogenesis in fetal rat bone cells simultaneously exposed to transforming growth factor β and other growth regulators. *FASEB J.* 1:312-317.
14. Canalis, E., T. McCarthy, M. Centrella (1988) Isolation and characterization of insulin-like growth factor I (somatomedin C) from cultures of fetal rat calvariae. *Endocrinology* 122:22-27.
15. Hock, J. M., M. Centrella, E. Canalis (1988) Insulin-like growth factor I (IGF-I) has independent effects on bone matrix formation and cell replication. *Endocrinology* 122:254-260.
16. Canalis, E., T. McCarthy, M. Centrella (1988) Growth factors and the regulation of bone remodeling. *J. Clin. Invest.* 81: 277-281.
17. Canalis, E., M. Centrella, T. L. McCarthy (1988) Effects of basic fibroblast growth factor on bone formation in vitro. *J. Clin. Invest.* 81:1572-1577.
18. Centrella, M., T. L. McCarthy, E. Canalis (1988) Parathyroid hormone modulates transforming growth factor β activity and binding in osteoblastic cells. *Proc. Natl. Acad. Sci. USA* 85:5889-5893.
19. McCarthy, T. L., M. Centrella, E. Canalis (1988) Further biochemical and molecular characterization of primary rat parietal bone cell cultures. *J. Bone Min. Res.* 3:401-408.
20. Centrella, M., T. L. McCarthy, E. Canalis (1988) Tumor necrosis factor α inhibits collagen synthesis and alkaline phosphatase activity independently of its effect on deoxyribonucleic acid synthesis in osteoblast-enriched bone cell cultures. *Endocrinology* 123:1442-1448.
21. Lorenzo, J. A., S. L. Sousa, M. Centrella (1988) Interleukin 1 in combination with transforming growth factor alpha produces enhanced bone resorption in vitro. *Endocrinology* 123:2194-2200.
22. Canalis, E. T. McCarthy, M. Centrella (1988) Isolation of growth factors from adult bovine bone matrix. *Calcif. Tissue Int.* 43:346-351.
23. Weir, E., M. Centrella, R. Matus, M. Brooks, T. Wu, K. Insogna (1988) Adenylate cyclase-stimulating activity, bone resorbing activity, and β TGF-like activity in canine apocrine cell adenocarcinoma of the anal sac. *Calcif. Tissue Int.* 43:359-365.

24. Centrella, M., T. L. McCarthy, E. Canalis (1988) Skeletal tissue and transforming growth factor β . *FASEB J.* 2:3066-3073.
25. McCarthy, T. L., M. Centrella, E. Canalis (1989) Regulatory effects of insulin-like growth factor I and II on bone collagen synthesis in rat calvarial cultures. *Endocrinology* 124:301-309.
26. Canalis, E., M. Centrella, T. L. McCarthy (1989) Insulin-like growth factor I mediates selective effects of parathyroid hormone in bone cultures. *J. Clin. Invest.* 83:60-65.
27. McCarthy, T. L., M. Centrella, E. Canalis (1989) Parathyroid hormone enhances the transcript and polypeptide levels of insulin-like growth factor I in osteoblast-enriched cultures from fetal rat bone. *Endocrinology* 124:1247-1253.
28. Insogna, K. L., A. F. Stewart, C. A. Morris, L. M. Hough, L. M. Milstone, M. Centrella (1989) Native and synthetic analogue of the malignancy-associated PTH-like protein have in vitro transforming growth factor-like properties. *J. Clin. Invest.* 83:1057-1060.
29. Centrella, M., T. L. McCarthy, E. Canalis (1989) Platelet-derived growth factor enhances deoxyribonucleic acid and collagen synthesis in osteoblast-enriched cultures from fetal rat parietal bone. *Endocrinology* 125:13-19.
30. Centrella, M., E. Canalis, T. L. McCarthy, J. J. Orloff, A. F. Stewart, K. L. Insogna (1989) Parathyroid hormone-related protein modulates the effects of transforming growth factor β on deoxyribonucleic acid and collagen synthesis in fetal rat bone cells. *Endocrinology* 125:199-208.
31. McCarthy, T. L., M. Centrella, E. Canalis (1989) Effects of fibroblast growth factors on deoxyribonucleic acid and collagen synthesis in rat parietal bone cells. *Endocrinology* 125:2118-2126.
32. Canalis, E., T. L. McCarthy, M. Centrella (1989) Effects of platelet-derived growth factor on bone formation in vitro. *J. Cell. Phys.* 140:530-537.
33. Centrella, M., T. L. McCarthy, E. Canalis (1989) β_2 microglobulin enhances insulin-like growth factor I binding and synthesis in bone cell cultures. *J. Biol. Chem.* 264:18268-18271.
34. Centrella, M., T. L. McCarthy, E. Canalis (1990) Receptors for insulin-like growth factors I and II in osteoblast-enriched cultures from fetal rat bone. *Endocrinology* 126:39-44.
35. Hock, J. M., E. Canalis, M. Centrella (1990) Transforming growth factor β (TGF β -1) stimulates bone matrix apposition and bone cell replication in cultured fetal rat calvariae. *Endocrinology* 126:421-426.
36. McCarthy, T. L., M. Centrella, E. Canalis (1990) Cortisol inhibits the synthesis of insulin-like growth factor I in bone cell cultures. *Endocrinology* 126:1569-1575.
37. Canalis, E., T. L. McCarthy, M. Centrella (1990) Differential effects of continuous and transient treatment with parathyroid hormone related peptide (PTHrp) on bone collagen synthesis. *Endocrinology* 126:1806-1812.
38. McCarthy, T. L., M. Centrella, E. Canalis (1990) Cyclic AMP induces insulin-like growth factor I synthesis in osteoblast-enriched cultures. *J. Biol. Chem.* 265:15353-15356.

39. ten Dijke, P., K. K. Iwata, C. Goddard, C. Piehler, E. Canalis, T. L. McCarthy, M. Centrella (1990) Recombinant transforming growth factor type β 3: Biological activities and receptor binding properties in isolated bone cells. *Mol. Cell. Biol.* 10:4473-4479.
40. Centrella, M., T. L. McCarthy, E. Canalis (1991) Activin-A binding and biochemical effects in osteoblast-enriched cultures from fetal rat parietal bone. *Mol. Cell. Biol.* 11:250-258.
41. Marusic, A., J. F. Kalinowski, J. R. Harrison, M. Centrella, L. G. Raisz, J. A. Lorenzo (1991) Effects of transforming growth factor β and interleukin 1 on prostaglandin synthesis in serum-deprived osteoblastic cells. *J. Immunol.* 146:2633-2638.
42. McCarthy, T. L., M. Centrella, L. G. Raisz, E. Canalis (1991) Prostaglandin E2 stimulates insulin-like growth factor I synthesis in osteoblast-enriched cultures from fetal rat bone. *Endocrinology* 128:2895-2900.
43. Canalis, E., T. L. McCarthy, M. Centrella (1991) Effects of desamino (1-3) insulin-like growth factor I on bone cell function in rat calvarial cultures. *Endocrinology* 129:534-541.
44. Centrella, M., T. L. McCarthy, W. F. Kusmik, E. Canalis (1991) Relative binding and biochemical effects of heterodimeric and homodimeric isoforms of platelet-derived growth factor in osteoblast-enriched cultures from fetal rat bone. *J. Cell. Phys.* 147:420-426.
45. Centrella, M., T. L. McCarthy, E. Canalis (1991) Glucocorticoid regulation of transforming growth factor β 1 (TGF- β 1) activity and binding in osteoblast-enriched cultures from fetal rat bone. *Mol. Cell. Biol.* 11:4490-4496.
46. Centrella, M., T. L. McCarthy, E. Canalis (1991) Current Concepts Review: transforming growth factor-beta (TGF- β) and remodeling of bone. *J. Bone and Joint Surg.* 73-A:1418-1428.
47. Canalis, E., M. Centrella, T. L. McCarthy (1991) Regulation of insulin-like growth factor (IGF) II production in bone cultures. *Endocrinology* 129:2457-2462.
48. McCarthy, T. L., M. Centrella, E. Canalis (1992) Constitutive synthesis of insulin-like growth factor II by primary osteoblast-enriched cultures from fetal rat calvariae. *Endocrinology* 130:1303-1308.
49. Rydzziel, S., C. Ladd, T. L. McCarthy, M. Centrella, E. Canalis (1992) Determination and expression of platelet-derived growth factor AA in bone cell cultures. *Endocrinology* 130:1916-1922.
50. Centrella, M., T. L. McCarthy, W. F. Kusmik, E. Canalis (1992) Isoform specific regulation of platelet-derived growth factor activity and binding in osteoblast-enriched cultures from fetal rat bone. *J. Clin. Invest.* 89:1076-1084.
51. Centrella, M., S. Casinghino, R. Ignatz, T. L. McCarthy (1992) Multiple regulatory effects by transforming growth factor type β (TGF- β 1) on type I collagen levels in osteoblast-enriched cultures from fetal rat bone. *Endocrinology* 131:2863-2872.
52. Weir, E. C., M. C. Horowitz, R. Baron, M. Centrella, B. M. Kacinski, K. L. Insogna (1993) Macrophage colony stimulating factor release and receptor expression in bone cells. *J. Bone Min. Res.* 8:1507-1518.
53. Centrella, M., M. C. Horowitz, J. M. Wozney, T. L. McCarthy (1994) Transforming growth factor β family members and bone. *Endocrine Rev.* 15:27-39.
54. McCarthy, T. L., S. Casinghino, M. Centrella, E. Canalis (1994) Complex pattern of insulin-like growth factor binding protein expression in primary rat osteoblast-enriched

cultures: regulation by prostaglandin E₂, growth hormone, and insulin-like growth factors. *J. Cell. Physiol.* 160:163-175.

55. Centrella, M., S. Casinghino, T. L. McCarthy (1994) Differential actions of prostaglandins in separate cell populations from fetal rat bone. *Endocrinology* 135:1611-1620.

56. Centrella, M., J. Kim, T. Pham, S. Casinghino, V. Rosen, J. Wozney, T. L. McCarthy (1995) Independent changes in type I and type II receptors for transforming growth factor β induced by bone morphogenetic protein-2 parallel expression of the osteoblast phenotype. *Mol. Cell. Biol.* 15:3273-3281.

57. Sankar, S., N. Mahooti-Brooks, M. Centrella, T. L. McCarthy, J. A. Madri (1995) Expression of transforming growth factor β type III receptor in bovine endothelial cells increases their responsiveness to transforming growth factor β 2. *J. Biol. Chem.* 270:13567-13572.

58. McCarthy, T. L., M. J. Thomas, M. Centrella, P. Rotwein (1995) Regulation of insulin-like growth factor I transcription by cyclic AMP in fetal rat bone cells through an element within exon 1: protein kinase A dependent control without a consensus cAMP response element. *Endocrinology* 136:3901-3908.

59. Jay, P. R., M. Centrella, J. Lorenzo, A. G. Bruce, M. C. Horowitz (1996) Oncostatin M: a new bone active cytokine which activates osteoblasts and inhibits bone resorption. *Endocrinology* 137:1151-1158.

60. McCarthy, T. L., S. Casinghino, D. W. Mittanck, C. Ji, M. Centrella, P. Rotwein (1996) Promoter-dependent and independent activation of insulin-like growth factor binding protein-5 gene expression by prostaglandin E₂ in primary rat osteoblasts. *J. Biol. Chem.* 271:6666-6671.

61. Sankar, S., N. Mahooti-Brooks, T. L. McCarthy, M. Centrella, J. A. Madri (1996) Modulation of transforming growth factor β receptor levels on microvascular endothelial cells during *in vitro* angiogenesis. *J. Clin. Invest.* 97:1436-1446.

62. Centrella, M., C. Ji, S. Casinghino, T. L. McCarthy (1996) Rapid flux in transforming growth factor β receptors on bone cells. *J. Biol. Chem.* 271:18616-18622.

63. Thomas, M. J., Y. Umayahara, H. Shu, M. Centrella, P. Rotwein, T. L. McCarthy (1996) Identification of the cAMP response element that controls transcriptional activation of the insulin-like growth factor-I gene by prostaglandin E₂ in osteoblasts. *J. Biol. Chem.* 271:21828-218354.

64. Sigel, A. V., M. Centrella, M. Eghbali-Webb (1996) Autocrine and exogenous transforming growth factor β 1 inhibit proliferation of cardiac fibroblasts. *J. Mol. Cell. Cardio.* 28:1921-1929.

65. Ji, C., S. Casinghino, T. L. McCarthy, M. Centrella (1996) Cloning, characterization and expression of the transforming growth factor- β type I receptor promoter in fetal rat bone cells. *J. Cell. Biochem.* 63:478-492.

66. McCarthy, T. L., C.-H. Ji, H. Shu, S. Casinghino, K. Crothers, P. Rotwein, M. Centrella (1997) 17 β -estradiol potently suppresses cAMP induced insulin-like growth factor-I (IGF-I) gene activation in primary rat osteoblast cultures. *J. Biol. Chem.* 272:18132-18139.

67. Ji, C., S. Casinghino, T. L. McCarthy, M. Centrella (1997) Multiple and essential Sp1 binding sites in the promoter for transforming growth factor- β type I receptor. *J. Biol. Chem.* 272:21260-21267.

68. Shin, J. H., C. Ji, S. Casinghino, T. L. McCarthy, M. Centrella (1997) Parathyroid hormone-related protein enhances insulin-like growth factor-I expression by fetal rat dermal fibroblasts. *J. Biol. Chem.* 272:23498-23502.
69. Takei, T., C. Rivas-Gotz, C. Dellings, J. Koo, M. Centrella, T. McCarthy, B. Sumpio (1997) The effect of strain on cell proliferation and morphology of human keratinocytes in vitro: role of cyclic AMP, cyclic AMP dependent protein kinase (PKA) and PGE₂. *J. Cell. Physiol.* 173:64-72.
70. Centrella, M., V. Rosen, J. M. Wozney, S. R. Casinghino, T. L. McCarthy (1997) Opposing effects by glucocorticoid and bone morphogenetic protein-2 (BMP-2) in fetal rat bone cell cultures. *J. Cell. Biochem* 67:528-540.
71. Umayahara, Y., C. Ji, M. Centrella, P. Rotwein, T. L. McCarthy (1997) CCAAT/enhancer binding protein delta (C/EBP δ) activates insulin-like growth factor-I gene transcription in osteoblasts: identification of a novel cyclic AMP signaling pathway in bone. *J. Biol. Chem.* 272:31793-31800.
72. Carpenter, T. O., K. C. Moltz, B. Ellis, M. Andreoli, T. L. McCarthy, M. Centrella, D. Bryan, C. M. Gundberg (1998) Osteocalcin production in primary osteoblast cultures derived from normal and *hyp* mice. *Endocrinology* 139:35-43.
73. McCarthy, T. L., C. Ji, S. Casinghino, M. Centrella (1998) Alternate signaling pathways selectively regulate binding of insulin-like growth factor I and II on fetal rat bone cells. *J. Cell. Biochem.* 68:446-456.
74. Centrella, M., C. Ji, T. L. McCarthy (1998) Control of TGF-beta receptor expression in bone. *Frontiers in Bioscience.* 3:d113-124 www.bioscience.org.
75. Chang, D. J., C. Ji, K. K. Kim, S. Casinghino, T. L. McCarthy, M. Centrella (1998) Reduction in transforming growth factor- β receptor I and transcription factor CBFa1 on bone cells by glucocorticoid. *J. Biol. Chem.* 273:4892-4896.
76. Ji, C., S. Casinghino, A. Javed, Y. Ito, S. W. Hiebert, J. B. Lian, G. S. Stein, T. L. McCarthy, M. Centrella (1998) CBF (AML/PEBP2)-related elements in the TGF- β type I receptor promoter and expression with osteoblast differentiation. *J. Cell. Biochem.* 69:353-363.
77. Chen, Y., H. Shu, C. Ji, K. K. Kim, S. Casinghino, C. M. Gundberg, M. Centrella, T. L. McCarthy (1998) Insulin-like growth factor binding proteins localize to discrete cell culture compartments in periosteal and osteoblast cultures from fetal rat bone. *J. Cell. Biochem.* 71:351-36278.
78. Umayahara, Y., J. Billiard, C. Ji, M. Centrella, T. L. McCarthy, P. Rotwein (1999) CCAAT/enhancer binding protein δ is a critical regulator of insulin-like growth factor-I gene transcription in osteoblasts. *J. Biol. Chem.* 274:10609-10617.
79. Ji, C., Y. Chen, M. Centrella, T. L. McCarthy (1999) Activation of the insulin-like growth factor binding protein-5 promoter in osteoblasts by cooperative E-box, CCAAT enhancer binding protein, and nuclear factor-1 deoxyribonucleic acid binding sequences. *Endocrinology* 140:4564-4572.
80. Ji, C., Y. Chen, T. L. McCarthy, M. Centrella (1999) Cloning the promoter for transforming growth factor-type β III receptor: basal and conditional expression in fetal rat osteoblasts. *J. Biol. Chem.* 274:30487-30493.
81. McCarthy, T. L., C. Ji, Y. Chen, K. Kim, M. Centrella (2000) Time- and dose-related interactions between glucocorticoid and cAMP on C/EBP-dependent IGF-I expression by osteoblasts. *Endocrinology* 141:127-137.

82. McCarthy, T. L., C. Ji, Y. Chen, K. K. Kim, M. Imagawa, Y. Ito, M. Centrella (2000) Runt domain factor (Runx)-dependent effects on CCAAT/enhancer binding-protein δ expression and activity in osteoblasts. *J. Biol. Chem.* 275:21746-21753.
83. McCarthy, T. L., C. Ji, M. Centrella (2000) Links among growth factors, hormones, and nuclear factors with essential roles in bone formation. *Critical Rev. Oral Biol. Med.* 11:409-422.
84. Billiard, J., Y. Umayahara, K. Wiren, M. Centrella, M. Centrella, T. L. McCarthy, P. Rotwein (2001) Regulated nuclear-cytoplasmic expression of CCAAT/enhancer-binding protein delta in osteoblasts. *J Biol. Chem.* 276:15354-15361.
85. Centrella, M., T. L. McCarthy (2001) Targeted disruption of C-type natriuretic peptide: a focused assault on cartilagenous bone. *Trends Endocrinol. Metab.* 12:235-236.
86. Ji, C., O. Eickelberg, T. L. McCarthy, M. Centrella (2001) Control and counter-control of TGF- β activity through FAST and Runx transcriptional elements in osteoblasts. *Endocrinology* 142:3873-3879.
87. Eickelberg, O., M. Centrella, M. Reiss, M. Kashgarian, R. G. Wells (2002) Betaglycan inhibits TGF- β signaling by preventing type I/ type II receptor complex formation. *J. Biol. Chem.* 277:823-829.
88. Chang, W., M. Parra, C. Ji, Y. Liu, O. Eickelberg, T. L. McCarthy, M. Centrella (2002) Transcriptional and post-transcriptional regulation of transforming growth factor β type II receptor expression in osteoblasts. *Gene* 299:65-77.
89. Ji, C., M. Centrella, T. L. McCarthy. Activation domains of CCAAT enhancer binding protein delta: regions required for native activity and prostaglandin E_2 -dependent trans-activation of the IGF-I gene promoter in rat osteoblasts (submitted).
90. Knoll, B. I., T. L. McCarthy, M. Centrella, J. Shin. Strain dependent control of TGF- β function in bone cells: a model of distraction osteogenesis. (submitted).
91. Kanai, H., N. A. Noble, M. Centrella, W. A. Border. Evidence that angiotensin II enhances fibrotic matrix production by upregulating TGF- β receptors type-I and -II in vitro and in vivo. (submitted).

BOOK CHAPTERS AND INVITED PAPERS

92. Canalis, E., M. Centrella (1985) Biological characterization of bone-derived growth factor; in: The Chemistry and Biology of Mineralized Tissues pages 70-79; Wm. T. Butler, editor; EBSCO Media, Inc. (Birmingham, AL).
93. Canalis, E., M. Centrella (1987) The endocrinology of bone formation; in: The CRC Handbook of Endocrinology, volume II, Part A, pages 31-46; H. M. Kaplan and G. H. Gass, editors; CRC Press, Inc. (Boca Raton, FL).
94. Insogna, K.L., A. F. Stewart, K. Ikeda, M. Centrella, L. M. Milstone (1989) Characterization of a parathyroid hormone-like peptide secreted by human keratinocytes. *Ann. NY Acad. Sci.* 548:146-149.
95. Canalis, E., T. McCarthy, M. Centrella (1989) The regulation of bone formation by local growth factors; in: Bone and Mineral Research 6:27-56; Wm. A. Peck, editor; Elsevier Science Publishers B.V. (Amsterdam).
96. Centrella, M., T. L. McCarthy, E. Canalis (1989) Effects of transforming growth factors on bone cells; in: Connect. Tissue Res. 20:267-275; M. J. Glimcher, editor; Gordon and Breach Science Publishers S.A. (New York).

97. McCarthy, T. L., M. Centrella, E. Canalis (1989) Insulin-like growth factor (IGF) and bone; in: Connect. Tissue Res. 20:277-282; M. J. Glimcher, editor; Gordon and Breach Science Publishers S.A. (New York).
98. Canalis, E., T. L. McCarthy, M. Centrella (1989) Growth factors and the skeletal system. J. Endocrinological Investigation 12:577-584.
99. Canalis, E., M. Centrella, T.L. McCarthy (1989) Role of insulin-like growth factors I and II on skeletal remodeling; in: Molecular and Cellular Biology of Insulin-like Growth Factors and Their Receptors; pages 459-466; D. LeRoith and M. K. Raizada, editors; Plenum Press (New York).
100. Canalis, E., T. L. McCarthy, M. Centrella (1989) The role of growth factors in skeletal remodeling; in: Endocrinology and Metabolism Clinics of North America 18:903-918; R.D. Tiegs, editor; W.B. Saunders Company (Philadelphia).
101. Centrella, M., T. L. McCarthy, E. Canalis (1990) Relative effects of hetero- and homodimeric isoforms of platelet-derived growth factor in fetal rat bone cells; in: Calcium Regulation and Bone Metabolism, basic and clinical aspects, 10:324-329; D.V. Cohn, F.H. Glorieux, and T.J. Martin, editors; Elsevier Science Publishers (Amsterdam).
102. Horowitz, M., M. Brown, K. Insogna, D. Coleman, M. Centrella, J. Phillips, E. Weir (1990) PTHrp and PTH induce the secretion of IL-6 by a clonal osteosarcoma cell line; in: Molecular and Cellular Biology of Cytokines; pages 471-476; M. C. Powanda, J. J. Oppenheim, M. J. Kluger, and C. A. Dinarello, editors; Alan R. Liss, Inc. (New York).
103. Canalis, E., T. L. McCarthy, M. Centrella (1991) Growth factors and cytokines in bone cell metabolism; in: Ann. Rev. Medicine 42:17-24.
104. Canalis, E., T. L. McCarthy, M. Centrella (1991) Production, regulation and effects of bone growth factors; in: Osteoporosis 1990 (Third International Symposium on Osteoporosis; Copenhagen); pages 243-247; C. Christiansen and K. Overgaard, editors; Osteopress ApS (Copenhagen).
105. Centrella, M., T. L. McCarthy, E. Canalis (1992) Growth factors and cytokines; in Bone; Volume 4, Bone Metabolism and Mineralization; pages 47-72; B.K. Hall, editor; CRC Press, Inc. (Boca Raton, FL).
106. Canalis, E., M. Centrella, T. L. McCarthy (1992) The role of insulin-like growth factors in bone remodeling; in: Calcium Regulating Hormones and Bone Metabolism, pages 258-265; D. V. Cohn, C. Gennari and A. H. Tashjian, editors; Elsevier Science Publishers B.V.
107. Horowitz, M., J. Phillips, M. Centrella (1992) TGF- β regulates IL-6 secretion by osteoblasts; in: Calcium Regulating Hormones and Bone Metabolism, pages 275-280; D. V. Cohn, C. Gennari and A. H. Tashjian, editors; Elsevier Science Publishers B.V.
108. Canalis, E., S. Varghese, T. L. McCarthy, M. Centrella (1992) Role of platelet derived growth factor in bone cell function. Growth Regulation 2:151-155.
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MEETING PRESENTATIONS

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2. Centrella, M., A. I. Meisler (1978) Regulation of ribosome production during amino acid deprivation. *J. Supramolecular Structure* 9:318.
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4. Centrella, M., E. Canalis (1984) Effects of bone-derived growth factors (BDGF) from rat calvariae on fibroblast cultures. *Proceedings of the Second International Conference on the Chemistry and Biology of Mineralized Tissues.*
5. Centrella, M., E. Canalis (1984) Fetal rat calvarial bone-derived growth factors are mitogenic for nonskeletal fibroblasts. *J. Cell Biol.* 99:274a.
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9. Centrella, M., T. McCarthy, E. Canalis (1986) Transforming growth factor type beta is a bifunctional regulator of osteoblast replication. *J. Bone Min. Res.* 1:156.
10. McCarthy, T., M. Centrella, E. Canalis (1986) Control of protein synthesis in primary parietal osteoblast cultures by regulators of bone formation. *J. Bone Min. Res.* 1:145.
11. Hock, J. M., M. Centrella, E. Canalis (1986) Stimulation of bone matrix apposition and bone cell replication by insulinlike growth factor (IGF-1) in cultured rat calvariae. *J. Bone Min. Res.* 1:67.
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19. Centrella, M., T. McCarthy, E. Canalis (1987) Parathyroid hormone (PTH) modulates TGF β binding and mitogenesis in osteoblast-enriched fetal rat parietal bone cells. *J. Cell Biol.* 105:21a.
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23. Centrella, M., T. L. McCarthy, E. Canalis (1988) β_2 microglobulin (β_2m) enhances insulin-like growth factor I (IGF-I) mediated DNA synthesis, binding, and transcript levels in osteoblast-enriched parietal bone cell cultures. *J. Bone Min. Res.* 3:514.
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28. McCarthy, T. L., M. Centrella, E. Canalis (1988) Regulatory effects of insulin-like growth factors I and II on bone collagen synthesis and degradation. *Proceedings of the Third International Conference on the Chemistry and Biology of Mineralized Tissues*, Chatham, MA.
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57. McCarthy, T. L., M. Centrella (1993) Growth factors and bone cells: metabolism of growth factor activity through modulation of binding parameters; 75th Annual Endocrine Society Meeting, abstract 16F.
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61. Madri, J. A., S. Sankar, M. Centrella (1994) Modulation of vascular cell behavior by transforming growth factor β . *Proceedings of Fogarty International Center Conference, TGF- β : Biological Mechanisms and Clinical Applications.*
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63. McCarthy, T. L., M. Centrella (1994) Bone morphogenetic protein-2 modulates IGF-I receptors on osteoblasts; 39th Annual Meeting of the Plastic Surgery Research Council.
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68. Centrella, M., S. Casinghino, T. L. McCarthy (1995) Bone morphogenetic protein (BMP-2) re-defines transforming growth factor- β (TGF- β) binding and function for osteoblasts; 40th Annual Meeting of the Plastic Surgery Research Council.
69. Pham, T., T. L. McCarthy, M. Centrella (1995) Prostaglandin E2 (PGE2) alters transforming growth factor β binding and function by osteoblasts; 40th Annual Meeting of the Plastic Surgery Research Council.
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77. Centrella, M., S. Casinghino, C. Gundberg, J. Wozney, V. Rosen, T. L. McCarthy (1995) Variations in bone morphogenetic protein (BMP) function and BMP receptors in growing and mineralizing bone cell cultures. *Mol. Biol. Cell.* 6:210a.
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79. Centrella, M., T. L. McCarthy (1996) Alterations in bone cell TGF- β receptors in response to strain; 41st Annual Meeting of the Plastic Surgery Research Council.
80. Ji, C., S. Casinghino, T. L. McCarthy, M. Centrella (1996) Cloning the promoter for the TGF- β type I receptor and its expression by osteoblasts. *J. Bone Min. Res.* 11:56.
81. McCarthy, T. L., H. Shu, C. Ji., S. Casinghino, M. Centrella (1996) 17 β -estradiol potently suppresses cAMP induced insulin-like growth factor-I (IGF-I) gene activation in primary rat osteoblast cultures. *J. Bone Min. Res.* 11:P280.
82. Centrella, M., C.-H. Ji, D. Chang, S. Casinghino, T. L. McCarthy (1996) Regulators of TGF- β type I receptor promoter activity. 3rd Internet World Congress of Biomedical Sciences. <http://www.3iwc.riken.go.jp> (Bone Cell Biology Symposium).
83. Umayahara, Y., M. Centrella, T. L. McCarthy, P. Rotwein (1997) CCAAT/enhancer binding proteins (C/EBP) mediate transcriptional activation of insulin-like growth factor-I gene by prostaglandin E2. 79th Annual Meeting of The Endocrine Society Meeting, Minneapolis, MN, OR40-1.
84. Ji, C., Y. Chen, S. Casinghino, M. Centrella, T. L. McCarthy (1997) Essential role for an E-box in the insulin-like growth factor binding protein 5 (IGFBP-5) promoter in osteoblasts: basal activity and maximal stimulation by prostaglandin E₂ (PGE₂) and influence of adjacent CCAAT and NF-1 sites. *J. Bone Min. Res.* 12:T411.
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86. Kanai, H., M. Centrella, N. A. Noble, W. A. Border (1997) Angiotensin II upregulates the expression of TGF- β type I and type II receptors. *J. Amer. Soc. Nephrology* 9:518A.

87. Kim, K. K., C. Ji, T. L. McCarthy, M. Centrella (1998) TGF- β regulates the expression of its own receptor system by altering nuclear transcription factor CBFa1. 43rd Annual Meeting of the Plastic Surgery Research Council.
88. Ray, A. O., J. A. Persing, T. L. McCarthy, M. Centrella (1998) TGF- β and BMP-2 enhance osteogenic cell-like activity in cultured rat dural cells. 43rd Annual Meeting of the Plastic Surgery Research Council.
89. McCarthy, T. L., C. Ji, M. Centrella (1999) Functional interactions between transcription factors CBFa1 and C/EBP δ in osteoblasts. 2nd Arthritis Research Conference, Arthritis Foundation, PD12.
90. Ji, C., Y. Chen, T. L. McCarthy, M. Centrella (1999) Cloning the promoter for transforming growth factor- β type III receptor: basal and conditional expression in fetal rat osteoblasts. TGF- β Conference, 1999.
91. Ji, C., Y. Chen, M. Centrella, T. L. McCarthy (1999) Parathyroid hormone (PTH) increases insulin-like growth factor-I (IGF-I) expression by osteoblasts by cAMP-dependent activation of transcription factor C/EBP in osteoblasts. *J. Bone Min. Res.* 13:1011.
92. Eickelberg, O., C. Ji, T. McCarthy, M. Centrella, M. Kashgarian (1999) Regulation of TGF- β receptor profiles in mesangial cells by glucose. *J. Am. Soc. Nephrol.* 10: 678A, Suppl. 1.
93. Eickelberg, O., C. Ji, T. McCarthy, M. Centrella, M. Kashgarian (2000) TGF- β receptors as determinants of diabetic nephropathy. *J. Am. Soc. Nephrol.* 11: 639A, Suppl. 1.
94. Eickelberg, O., M. Stankewich, M. Centrella, M. Kashgarian, R. G. Wells (2000) The Type III TGF- β receptor is a potent inhibitor of TGF- β signaling. *J. Am. Soc. Nephrol.* 11: 420A, Suppl. 1.
95. Pham, T., C. Ji, T. L. McCarthy, M. Centrella (2000) Regulation of TGF-beta receptor III expression on osteoblasts by prostaglandin E2. 45th Annual Meeting of the Plastic Surgery Research Council.
96. Billiard, J., H. Ma, Y. Umayahara, C. Ji, M. Centrella, T. L. McCarthy, P. Rotwein (2000) Prostaglandin E2 induces nuclear translocation of CCAAT/enhancer binding protein delta in rat osteoblasts. 82nd Annual Meeting of the Endocrine Society Meeting, Toronto, CA, OR411.
97. McCarthy, T. L., C. Ji, Y. Chen, K. K. Kim, M. Imagawa, Y. Ito, M. Centrella (2000) Runt domain factor (Runx)-dependent effects on C/EBP δ expression and activity in osteoblasts. *J. Bone Min. Res.* 14.
98. Ji, C., O. Eickelberg, T. L. McCarthy, M. Centrella (2000) Control and counter-control of TGF- β activity through FAST and Runx transcriptional elements in osteoblasts. *J. Bone Min. Res.* 14.
99. Moro, L., M. Fornaro, T. L. McCarthy, M. Centrella, L. Languino (2001) A novel autocrine mechanism activated by β 1 integrins that supports cell adhesion via IGF-II and type 1 IGF receptor. *Mol. Biol. Cell.* 12:464a.
100. Dhawan, P., X. Peng, M. Centrella, T. L. McCarthy, S. Christakos (2002) Evidence for functional cooperation between CCAAT/enhancer-binding protein β and the VDR/RXR complex in regulation of 25-hydroxyvitaminD3 24-hydroxylase transcription. *J. Bone Min. Res.* (submitted).

ADDRESSES AT NATIONAL AND INTERNATIONAL MEETINGS

1. Workshop on Growth Factors and Bone Formation: 8th Annual Meeting of the American Society for Bone and Mineral Research (Anaheim CA, 1986) Local regulators of bone growth.
2. Bone Cell Biology Subgroup Meeting: 27th annual meeting of the American Society for Cell Biology (St. Louis MO, 1987) Regulation of transforming growth factor β activity in isolated bone cells.
3. Workshop on Growth Factors and Bone Metabolism: Merck Sharp & Dohme Bone Biology Research Conference (Branchburg NJ, 1988) Recent studies on the regulation fetal bone cell replication by transforming growth factor β .
4. Third International Conference on the Chemistry and Biology of Calcified Tissues (Chatham MA, 1988) Control of bone cell activity by transforming growth factor β .
5. Organizer, Bone Cell Biology Subgroup Meeting: joint meeting of the American Society for Biochemistry and Molecular Biology and The American Society for Cell Biology (San Francisco CA, 1989) Hormonal Control of Growth Factor Activity in Skeletal Cells.
6. First International Conference on Metabolic Bone Disease (Platja D'Aro, Gerona, Spain, 1990) Prostaglandins and growth factors: regulation of bone remodeling.
7. Bone Symposium 91 (Portland OR, 1991) TGF- β family and bone remodeling.
8. Osteosarcoma Research Conference 1991 (Pittsburgh PA, 1991) Growth factor activity and growth factor receptors in normal osteoblast-like and osteosarcoma cell cultures.
9. Bone Cell Biology Subgroup Meeting: 31st annual meeting of the American Society for Cell Biology (Boston MA, 1991) Comparison of TGF- β effects on normal and transformed osteoblast-like cells.
10. Biological Mechanisms of Tooth Eruption, Resorption and Replacement by Implants (2nd International Conference, Danvers MA, 1993) Cross talk among bone cells by way of local growth factors.
11. Cell Biology Subgroup Meeting, Mechanosensors and Signal Transduction in Mechanically Stimulated Cells: 35th annual meeting of the American Society for Cell Biology (Washington DC, 1995) Effects of cyclic strain on TGF- β binding to bone cells.
12. Plastic Surgery Education Foundation, Subgroup: Biomaterials in the Face, Benefits & Risks (Boston MA, 1998) Overview of cytokine influence on bone growth.

INVITED SEMINARS AT EDUCATIONAL SITES

- Brown University, Providence, RI (1981)
- Wesleyan University, Middletown, CT (1982)
- Yale University Endocrine Conference, New Haven, CT (1986)
- Allegheny-Singer Medical Center, Pittsburgh, PA (1988)
- University of Massachusetts, Worcester, MA (1990)
- Albert Einstein College of Medicine, Brooklyn, NY (1991)
- University of Michigan, Ann Arbor, MI (1991)
- Jefferson University, Philadelphia, PA (1992)
- Yale University, Otolaryngology Research Conference (1993)
- Yale University, Department of Orthopedics Grand Rounds (1994)
- Yale University, Department of Pathology Research Conference (1995)

Yale University, Skin Center Research Conference (1996)
Yale University, Cancer Center Research Conference (1997)
Yale University, Department of Pathology Grand Rounds (1997)
Harvard University, Boston, MA (1998)
Boston University, Boston, MA (1998)
Mayo Medical Center, Rochester, MN (1999)
Michigan State University, East Lansing, MI (1999)
Massachusetts Institute of Technology, Cambridge, MA (1999)
Bayer/Yale University Bone Biology Conference (1999)
National Institute for Dental and Craniofacial Research, Bethesda, MD (1999)
Visiting Professor, Boston University, Boston, MA (2000-2002)
Visiting Professor, Waterbury/St. Mary's Hospital Surgery Residence Program (2000-2002)
University of Massachusetts, Worcester, MA (2002)
Yale University Developmental Therapeutics Conference (2003)

INVITED SEMINARS AT BIOTECH AND PHARMACEUTICAL COMPANIES

Pfizer, Groton, CT (1986)
Smith-Kline French, Swedesburgh, PA (1988)
Rorer, King of Prussia, PA (1988)
Oncogene Sciences, Manhasset, NY (1988)
Genentech, S. San Francisco, CA (1989)
Merck Sharp & Dohme, West Point, PA (1989)
Creative Biomolecules, S. Hopkinton, MA (1991)
Genetics Institute, Cambridge, MA (1991)
Wyeth-Ayerst, Princeton, NJ (1992)
Pfizer, Groton, CT (1992)
Miles, West Haven, CT (1993)
Glaxo-Wellcome, Research Triangle, NC (1994)
Institute for Molecular Biology, Worcester, MA (1994)
Rhone-Poulenc/Rorer, Collegetown, PA (1997)
Bayer, West Haven, CT (1998)
Genetics Institute, Cambridge, MA (1998)