

CURRICULUM VITAE

Gary R. Grotendorst, PhD

Lovelace Respiratory Research Institute
2425 Ridgecrest Dr. SE
Albuquerque, NM 87108
Fax: (505) 348-8567
ggrotend@LRRI.org

EDUCATION AND TRAINING

B.A. (Biology) 1974, University of South Florida
Ph.D. (Biology), 1979, University of Florida
Postdoctoral Fellow (Biochemistry) 1979, University of South Florida College of Medicine
NRSA Fellow, 1979-1982, Laboratory of Developmental Biology and Anomalies, NIDR, NIH

EMPLOYMENT

- 2007 - Present Director of Countermeasures Against Chemical Threats (CounterACT)
Research Center of Excellence, Lovelace Respiratory Research Institute,
Albuquerque, NM
- 2004 - Present Senior Scientist, Lovelace Respiratory Research Institute, Albuquerque, NM
Direct research in area of Cell, Molecular and Developmental Biology on
Tissue Regeneration and Repair on Pulmonary Tissue.
- 1993 - 2004 Professor, University of Miami School of Medicine, Department of Cell
Biology and Anatomy, Miami, FL
Direct research program in area of Cell, Molecular and Developmental
Biology on Tissue Regeneration and Repair. Direct Graduate Program in
Cell, Molecular and Developmental Biology. Coordinate and Teach Graduate
Student and Medical Student Courses.
- 1991 - 1993 Associate Professor, University of Miami School of Medicine, Department of
Cell Biology and Anatomy, Miami, FL
Direct research program in area of Cell, Molecular and Developmental
Biology on Tissue Regeneration and Repair. Direct Graduate Program in
Cell, Molecular and Developmental Biology. Coordinate and Teach Graduate
Student and Medical Student Courses.
- 1989 - 1991 Associate Professor, University of South Florida College of Medicine,
Departments of Ophthalmology and Biochemistry and Molecular Biology,
Tampa, FL
Direct research in area of Cell, Molecular and Developmental Biology on
Tissue Regeneration and Repair. Direct Graduate Program in Cell, Molecular
and Developmental Biology. Coordinate and Teach Graduate Student and
Medical Student Courses.
- 1987 - 1989 Associate Professor, University of South Florida, Department of Biology,
Tampa, FL
Direct research program in area of Cell, Molecular and Developmental
Biology on Tissue Regeneration and Repair. Direct Graduate Program in
Cell, Molecular and Developmental Biology. Coordinate and Teach Graduate
and Undergraduate Student Courses.

- 1984 - 1987 Assistant Professor, Medical University of South Carolina, Department of Medicine, Division of Rheumatology and Immunology, Charleston, SC
Direct research program in area of Cell, Molecular and Developmental Biology on Tissue Regeneration and Repair. Direct Graduate Program in Cell, Molecular and Developmental Biology. Coordinate and Teach Graduate Student and Medical Student and Dental Student Courses.
- 1982 - 1984 Staff Fellow, NIH, NIDR, Laboratory of Developmental Biology and Anomalies, Bethesda, MD
Direct research program in area of Growth Factors, Wound Healing and Fibrotic Disorders.

HONORS

Graduate Assistantship, University of South Florida Department of Biology, 1974-1978
Public Health Service National Research Service Award (1F32DE05218), NIH, 1979-1982
Workshop Fellow, Workshop on Diabetes and Atherosclerosis, Juvenile Diabetes Foundation, 1980
Basal O'Connor Starter Scholar Award, March of Dimes, 1986-1988
Provost's Scholar Award, University of Miami, 1999

PROFESSIONAL AFFILIATIONS

Wound Healing Society

PUBLICATIONS

Books, monographs and invited reviews:

1. Kleinman, H. K., A. T. Hewitt, G. R. Grotendorst, G. R. Martin, J. C. Murray, D. H. Rohrbach, V. P. Terranova, S. I. Rennard, H. H. Varner and C. M. Wilkes: Role of Matrix Protein in Adhesion and Growth of Cells. In *Current Research Trends in Prenatal Craniofacial Development* (R. M. Pratt and R. L. Christiansen, eds.), pp. 277-295, Elsevier/North Holland, New York, 1980.
2. Grotendorst, G. R., H. K. Kleinman, D. H. Rohrbach, A. T. Hewitt, H. H. Varner, E. A. Horigan, J. D. Hassell, V. P. Terranova and G. R. Martin: Role of Attachment Factors in Mediating the Attachment, Distribution and Differentiation of Cells. In *Growth of Cells in Hormonally Defined Media* (Sirbasku, Sato and Pardee, eds.), Cold Spring Harbor Conference on Cell Proliferation #9, pp. 403-414, Cold Spring Harbor Press, New York, 1982.
3. Grotendorst, G. R., H. E. J. Seppa, G. R. Martin, H. K. Kleinman, C. D. Stiles and C. D. Scher: Platelet-Derived Growth Factor Induces Directed Migration of Fibroblastic Cells. In *Growth of Cells in Hormonally Defined Media* (Sirbasku, Sato and Pardee, eds.), Cold Spring Harbor Conference on Cell Proliferation #9, pp. 125-130, Cold Spring Harbor Press, New York, 1982.
4. Kleinman, H. K., D. H. Phorbach, V. P. Terranova, H. H. Varner, A. T. Hewitt, G. R. Grotendorst, C. M. Wilkes, H. E. J. Seppa and E. Schiffmann: Collagenous Matrices as Determinants for Cell Function. In *Immunochemistry of the Extracellular Matrix*, Vol. 2 (H. Furthmayr, ed.), pp. 151-174, CRC Press, Inc., Boca Raton, FL, 1982.
5. Seppa, H. E. J., S. Seppa, G. R. Grotendorst, V. Gauss-Muller, H. K. Kleinman, E. Schiffmann and G. R. Martin: Matrix Glycoproteins as Mediators of Cell Adhesion and Tissue Repair. In *Connective Tissue of Normal and Fibrotic Liver* (Rauterberg, ed.), pp. 45-49, Georg Thieme Verlag, Stuttgart, West Germany, 1982.

6. Grotendorst, G. R., D. Pencev, G. R. Martin and J. Sodek: Molecular Mediators of Tissue Repair. In *International Symposia on Soft and Hard Tissue Repair* (Pines, Rovee, Hunt and Heppenstall, eds.), pp. 21-40, Praeger, New York, 1984.
7. Grotendorst, G. R., L. Paglia, C. Mclvor, S. Barsky, Y. Martinet, A. Pencev and A. K. Harvey: Chemoattractants in Fibrotic Disorders. In *Fibrosis, Ciba Foundation Symposium, 114*, pp. 159-163, The Bath Press, Avon, England, 1985.
8. Grotendorst, G. R. and G. R. Martin: Cell Movements in Wound Healing and Fibrosis. In *Rheumatology Annual Review: Connective Tissue; Biological and Clinical Aspects* (Kuhn and Krieg, eds.), pp. 385-403, Karger, Basel, 1986.
9. Grotendorst, G. R.: A Rapid Spectrophotometric Assay for the Quantitation of Cell Migration in the Boyden Chamber Chemotaxis Assay. In *Methods of Enzymology Peptide Growth Factors*, Vol. 147, (Barnes and Sirbasku, eds.), pp. 144-152, Academic Press, 1987.
10. Grotendorst, G. R.: Growth Factors as Regulators of Wound Repair. *Int. J. Tissue React. 10*: 337-344, 1988.
11. Grotendorst, G. R., C. A. Grotendorst and T. Gilman: Production of Growth Factors (PDGF & TGF- β) at the Site of Tissue Repair. In *Biological and Clinical Aspects of Tissue Repair* (Hunt, Pines, Barbul and Caldwell, eds.), pp. 47-54, Alan R. Liss, New York, NY, 1988.
12. Grotendorst, G. R.: An Overview of the Tissue Repair Process. In *Biological Response Modifiers in Ophthalmic Tissue Repair* (Grotendorst, Hjelmeland and Gills, eds.), Portfolio Publishing, 1990.
13. Grotendorst, Hjelmeland and Gills (eds.): *Symposium "Visions in Wound Healing: Biological Response Modifiers in Ophthalmic Tissue Repair,"* Portfolio Publishing, The Woodlands, TX, 1990.
14. Grotendorst, Hjelmeland and Gills (eds.): *Advances in Applied Biotechnology Series Volume 8, Biological Response Modifiers in Ophthalmic Tissue Repair*, Portfolio Publishing, The Woodlands, TX, 1990.
15. Grotendorst, G. R.: Polypeptide Growth Factors and Chemoattractants During Wound Repair. In *Wound Healing: Biochemical and Clinical Aspects* (I. K. Cohen, R. F. Diegelmann and W. J. Lindblad, eds.), Saunders, Philadelphia, PA, 1991.
16. Grotendorst, G. R.: Identification and Development of Antifibrotic Agents. *Expert Opin. Investig. Drugs 6*: 777-781, 1997.
17. Grotendorst, G. R.: Connective Tissue Growth Factor: A Mediator of TGF- β Action on Fibroblasts. *Cytokine Growth Factor Rev. 8*: 171-179, 1997.
18. Grotendorst, G. R.: Connective Tissue Growth Factor, Mini-Review. Wound Healing Society Newsletter, Fall 1997.
19. Grotendorst, G. R., L. F. Lau and B. Perbal: CCN Proteins are Distinct from and Should not be Considered Members of the Insulin-Like Growth Factor-Binding Protein Superfamily. *Endocrinology 141*: 2254-2256, 2000.
20. Grotendorst, G. R., L. F. Lau and B. Perbal: CCN Proteins are Distinct from, and should not be Considered Members of, the Insulin-Like Growth Factor-Binding Protein Superfamily. *J. Clin. Endocrinol. Metab. 86*: 944-945, 2001.

Juried or refereed journals:

1. Grotendorst, G. R. and S. D. Schimmel: Alteration of Cyclic Nucleotide Levels in Phorbol-12-myristate-13-acetate Treated Myoblasts. *Biochem. Biophys. Res. Commun. 93*: 301-307, 1980.
2. Schimmel, S. D., G. R. Grotendorst and R. I. Grove: Binding of Phorbol-12-myristate-13-acetate to Cultured Myoblasts. *Cancer Lett. 9*: 229-236, 1980.

3. Grotendorst, G. R., H. E. J. Seppa, H. K. Kleinman and G. R. Martin: Attachment of Smooth Muscle Cells to Collagen and Their Migration Toward Platelet-Derived Growth Factor. *Proc. Natl. Acad. Sci. USA* 78: 3669-3672, 1981.
4. Yamada, K. M., D. W. Kennedy, G. R. Grotendorst and T. Momoi: Glycolipids: Receptors for Fibronectin? *J. Cell. Physiol.* 109: 343-351, 1981.
5. Barsky, S., N. Rao, G. R. Grotendorst and L. A. Liotta: Increased Content of Type V Collagen in Desmoplasia of Human Breast Carcinoma. *Am. J. Pathol.* 108: 276-283, 1982.
6. Grotendorst, G. R., T. Chang, H. E. J. Seppa, H. K. Kleinman and G. R. Martin: Platelet-Derived Growth Factor is a Chemoattractant for Vascular Smooth Muscle Cells. *J. Cell. Physiol.* 113: 261-266, 1982.
7. Seppa, H. E. J., G. R. Grotendorst, S. Seppa, E. Schiffmann and G. R. Martin: Platelet-Derived Growth Factor is Chemotactic for Fibroblasts. *J. Cell Biol.* 92: 584-588, 1982.
8. Vigny, M., G. R. Martin and G. R. Grotendorst: Interactions of Asymmetric Forms of Acetylcholinesterase with Basement Membrane Components. *J. Biol. Chem.* 258: 8794-8798, 1983.
9. Woodley, D., D. Sauder, M. J. Talley, M. Silver, G. R. Grotendorst and E. Qvarnstrom: Localization of Basement Membrane Components After Dermal-Epidermal Junction Separation. *J. Invest. Dermatol.* 81: 149-153, 1983.
10. Assoian, R. K., G. R. Grotendorst, D. M. Miller and M. D. Sporn: Cellular Transformation by Coordinated Action of Three Peptide Growth Factors from Human Platelets. *Nature* 309: 804-806, 1984.
11. Barsky, S. H., W. R. Greene, G. R. Grotendorst and L. A. Liotta: Desmoplastic Breast Carcinoma as a Source of Human Myofibroblasts. *Am. J. Pathol.* 115: 329-333, 1984.
12. Grotendorst, G. R.: Alteration of the Chemotactic Response of NIH/3T3 Cells to PDGF by Growth Factors, Transformation, and Tumor Promoters. *Cell* 36: 279-285, 1984.
13. Modesti, A., T. Kalebic, S. Scarpa, S. Togo, G. R. Grotendorst, L. A. Liotta and T. J. Triche: Type V Collagen in Human Amnion is a 12 nm Fibrillar Component of the Pericellular Interstitium. *Eur. J. Cell Biol.* 35: 246-255, 1984.
14. Bleiberg, I., A. Harvey, G. Smale and G. R. Grotendorst: Identification of a PDGF-Like Mitoattractant Produced by NIH/3T3 Cells After Transformation with SV40. *J. Cell. Physiol.* 123: 161-166, 1985.
15. Bressler, J. P., G. R. Grotendorst, C. Levitov and L. M. Hjelmeland: Chemotaxis of Rat Brain Astrocytes to Platelet-Derived Growth Factor. *Brain Res.* 344: 249-254, 1985.
16. Grotendorst, G. R., G. R. Martin, D. Pencev, J. Sodek and A. K. Harvey: Stimulation of Granulation Tissue Formation by Platelet-Derived Growth Factor in Normal and Diabetic Rats. *J. Clin. Invest.* 76: 2323-2329, 1985.
17. Smith, R. R., B. R. Clower, G. R. Grotendorst, N. Yabunro and J. M. Cruse: Arterial Wall Changes in Early Human Vasospasm. *Neurosurgery* 16: 171-176, 1985.
18. Lawrence, W. T., J. A. Norton, A. K. Harvey, C. M. Gorschboth, T. L. Talbot and G. R. Grotendorst: Doxorubicin-Induced Impairment of Wound Healing in Rats. *J. Natl. Cancer Inst.* 76: 119-126, 1986.
19. Lawrence, W. T., J. A. Norton, M. B. Sporn, C. M. Gorschboth and G. R. Grotendorst: The Effect of Chemoattractants and Growth Factors on Wound Healing in a Wound Chamber Model in Adriamycin-Treated Rats. *Ann. Surg.* 203: 142-147, 1986.
20. Martinet, Y., P. B. Bitterman, J. F. Mornex, G. R. Grotendorst, G. R. Martin and R. G. Crystal: Activated Human Monocytes Express the c-sis Proto-oncogene and Release a Mediator Showing PDGF-Like Activity. *Nature* 319: 158-160, 1986.
21. Mornex, J. F., Y. Martinet, K. Yamauchi, P. B. Bitterman, G. R. Grotendorst, A. Chytil-Weir, G. R. Martin and R. G. Crystal: Spontaneous Expression of the c-sis Gene and Release of a Platelet-Derived Growth Factor-Like Molecule by Human Alveolar Macrophages. *J. Clin. Invest.* 78: 61-66, 1986.

22. Takehara, K., M. Trojanowska, G. R. Grotendorst and E. C. LeRoy: Ascorbic Acid Effects on Type I Procollagen Synthesis by Human Adult Skin Fibroblasts. *Coll. Relat. Res.* 6: 455-466, 1986.
23. Martinet, Y., W. N. Rom, G. R. Grotendorst, G. R. Martin and R. G. Crystal: Exaggerated Spontaneous Release of Platelet-Derived Growth Factor by Alveolar Macrophages from Patients with Idiopathic Pulmonary Fibrosis. *N. Eng. J. Med.* 317: 202-209, 1987.
24. Maxwell, D., C. A. Grotendorst, G. R. Grotendorst and E. C. LeRoy: Fibroblast Heterogeneity in Scleroderma: C1Q Studies. *J. Rheumatol.* 14: 756-759, 1987.
25. Takehara, K., G. Grotendorst, R. Silver and R. C. LeRoy: Dipyridamole Decreases PDGF Levels in Human Serum. *Arteriosclerosis* 7: 152-158, 1987.
26. Takehara, K., E. C. LeRoy and G. R. Grotendorst: TGF-Beta Inhibition of Endothelial Cell Proliferation: Alteration of EGF-Binding and EGF-Induced Growth Regulatory (Competence) Gene Expression. *Cell* 49: 415-422, 1987.
27. Grotendorst, G. R., A. K. Harvey, L. Naganajan, W. B. Anderson and E. Gatewood: Differentiation Dependent Production of PDGF-Like Mitoattractant by Endoderm Cells Derived from Embryonal Carcinoma Cells. *J. Cell. Physiol.* 134: 437-443, 1988.
28. Howes, R., J. M. Bowness, G. R. Grotendorst, G. R. Martin and A. H. Reddi: Platelet-Derived Growth Factor Enhances Demineralized Bone Matrix-Induced Cartilage and Bone Formation. *Calcif. Tissue Int.* 42: 34-38, 1988.
29. Kartha, S., D. M. Bradham, G. R. Grotendorst and G. Toback: Kidney Epithelial Cells Express the c-sis Proto-oncogene and Secrete PDGF-Like Proteins: Evidence of a Paracrine Mechanism. *Am. J. Physiol.* 255: F800-F806, 1988.
30. Martinet, N., L. Harne and G. R. Grotendorst: Characterization of Epidermal Chemoattractants. *J. Invest. Dermatol.* 90: 122-126, 1988.
31. Pencev, D. and G. R. Grotendorst: Human Peripheral Blood Monocytes Secrete a Unique Form of PDGF. *Oncogene Res.* 3: 333-342, 1988.
32. Campochiaro, P. A., R. Sugg, G. R. Grotendorst and L. M. Hjelmeland: Retinal Pigment Epithelial Cells Produced PDGF-Like Proteins and Secrete Them into Their Media. *Exp. Eye Res.* 14: 217-227, 1989.
33. Graves, D. T., G. R. Grotendorst, H. N. Antoniades, C. J. Schwartz and A. J. Valente: Platelet-Derived Growth Factor is not Chemotactic for Human Peripheral Blood Monocytes. *Exp. Cell Res.* 180: 497-503, 1989.
34. Grotendorst, G. R., G. Smale and D. Pencev: Production of Transforming Growth Factor Beta by Human Peripheral Blood Monocytes and Neutrophils. *J. Cell. Physiol.* 140: 396-402, 1989.
35. Grotendorst, G. R., Y. Soma, K. Takehara and M. Charette: EGF and TGF-Alpha are Potent Chemoattractants for Endothelial Cells and EGF-Like Peptides and RNA Transcripts are Present at Sites of Tissue Regeneration. *J. Cell. Physiol.* 139: 617-623, 1989.
36. Keller, J. C., W. J. Dougherty and G. R. Grotendorst: *In Vitro* Cell Attachment to Characterized cp Titanium Surfaces. *J. Adhesion* 28: 115-133, 1989.
37. Matsuoka, J. and G. R. Grotendorst: Novel Forms of PDGF-Related Peptides in Human Wound Fluid. *Proc. Natl. Acad. Sci. USA* 86: 4416-4420, 1989.
38. Soma, Y. and G. R. Grotendorst: TGF-Beta Stimulates Primary Human Skin Fibroblast DNA Synthesis via an Autocrine Production of PDGF-Related Peptides. *J. Cell. Physiol.* 140: 246-253, 1989.
39. Iida, N., J. Matsuoka and G. R. Grotendorst: Cloning and Sequencing of a New gro-Transcript from Activated Human Monocytes: Expression in Leukocytes and Wound Tissue. *Mol. Cell. Biol.* 10: 5596-5599, 1990.
40. Bradham, D. M., A. Igarashi, R. L. Potter and G. R. Grotendorst: Connective Tissue Growth Factor: A Cysteine-Rich Mitogen Secreted by Human Vascular Endothelial Cells is Related to the SRC-Induced Immediate Early Gene Product CEF-10. *J. Cell Biol.* 114: 1285-1294, 1991.

41. Grotendorst, G. R., A. Igarashi, R. Larson, Y. Soma and M. Charette: Differential Binding, Biological and Biochemical Actions of Recombinant PDGF AA, AB, and BB Homodimers on Connective Tissue Cells. *J. Cell. Physiol.* 149: 235-243, 1991.
42. Dvonch, V. M., R. J. Murphey, J. Matsuoka and G. R. Grotendorst: PDGF and MDGF Levels in Human Wound Fluid. *Surgery* 112: 18-23, 1992.
43. Soma, Y., V. Dvonch and G. R. Grotendorst: PDGF AA Homodimer is a Significant Part of Platelet-Derived Growth Factor in Human Platelets and is the Predominant Form Present in Acute Human Wound Fluid. *FASEB J.* 6: 2996-3001, 1992.
44. Igarashi, A., H. Okochi, D. M. Bradham and G. R. Grotendorst: Regulation of Connective Tissue Growth Factor Gene Expression in Human Skin Fibroblasts and During Wound Repair. *Mol. Biol. Cell* 4: 637-645, 1993.
45. Espinoza, L. R., C. G. Espinoza, M. L. Cuellar, E. Scopelitis, L. H. Silveria and G. R. Grotendorst: Fibroblast Function in Psoriatic Arthritis. II. Increased Expression of Beta Platelet Derived Growth Factor Receptors and Increased Production of Growth Factor and Cytokines. *J. Rheumatol.* 21: 1507-1511, 1994.
46. Haisa, M., H. Okochi and G. R. Grotendorst: Elevated Levels of PDGF α Receptors in Keloid Fibroblasts Contribute to an Enhanced Response to PDGF. *J. Investig. Dermatol.* 103: 560-563, 1994.
47. Igarashi, A., K. Nashiro, K. Kikuchi, S. Sato, H. Ihn, G. R. Grotendorst and K. Takehara: Significant Correlation Between Connective Tissue Growth Factor Gene Expression and Skin Sclerosis in Tissue Sections from Patients with Systemic Sclerosis. *J. Investig. Dermatol.* 105: 280-284, 1995.
48. Agren, M., M. Haisa and G. R. Grotendorst: Differential Expression of Platelet-Derived Growth Factor Receptors in Porcine Fibroblasts Cultured from Skin and Granulation Tissue. *Wound Repair Regen.* 4: 288-296, 1996.
49. Frazier, K., S. Williams, D. Kothapoli, H. Klapper and G. R. Grotendorst: Stimulation of Fibroblast Cell Growth, Matrix Production and Granulation Tissue Formation by Connective Tissue Growth Factor. *J. Investig. Dermatol.* 107: 404-411, 1996.
50. Grotendorst, G. R., H. Okochi and N. Hayashi: A Novel TGF- β Response Element Controls the Expression of the Connective Tissue Growth Factor (CTGF) Gene. *Cell Growth Differ.* 7: 469-480, 1996.
51. Igarashi, A., K. Nashiro, K. Kikuchi, S. Sato, H. Ihn, M. Fujimoto, G. R. Grotendorst and K. Takehara: Connective Tissue Growth Factor Gene Expression in Tissue Sections from Localized Scleroderma, Keloid, and Other Fibrotic Skin Disorders. *J. Investig. Dermatol.* 106: 729-733, 1996.
52. Iida, N., M. Haisa, A. Igarashi, D. Pancev and G. R. Grotendorst: Leukocyte Derived Growth Factor Links the PDGF and CXC Chemokine Families of Peptides. *FASEB J.* 10: 1336-1345, 1996.
53. Frazier, K. S. and G. R. Grotendorst: Expression of Connective Tissue Growth Factor mRNA in the Fibrous Stroma of Mammary Tumors. *Int. J. Biochem. Cell Biol.* 29: 153-161, 1997.
54. Kothapalli, D., K. S. Frazier, A. Welply, P. R. Segarini and G. R. Grotendorst: Transforming Growth Factor Beta Induces Anchorage-Independent Growth of NRK Fibroblasts via a Connective Tissue Growth Factor-Dependent Signaling Pathway. *Cell Growth Differ.* 8: 61-68, 1997.
55. Mason, E. D., S. Williams, G. R. Grotendorst and J. L. Marsh: Combinatorial Signaling by Twisted Gastrulation and Decapentaplegic. *Mech. Dev.* 64: 61-75, 1997.
56. Dammeier, J., M. Brauchle, W. Falk, G. R. Grotendorst and S. Werner: Connective Tissue Growth Factor Expression Correlates with Inflammation and Fibrosis in Inflammatory Bowel Disease. *Int. J. Biochem.* 30: 909-922, 1998.

57. Kothapalli, D., N. Hayashi and G. R. Grotendorst: Inhibition of TGF- β -Stimulated CTGF Gene Expression and Anchorage-Independent Growth by cAMP Identifies a CTGF-Dependent Restriction Point in the Cell Cycle. *FASEB J.* 12: 1151-1161, 1998.
58. Duncan, M. R., K. S. Frazier, S. Abramson, S. Williams, H. Klapper, X. Huang and G. R. Grotendorst: Connective Tissue Growth Factor Mediates Transforming Growth Factor β -Induced Collagen Synthesis: Down-Regulation by cAMP. *FASEB J.* 13: 1774-1786, 1999.
59. Grotendorst, G. R. and D. H. Hessinger: Purification and Partial Characterization of the Phospholipase A2 and Co-lytic Factor from Sea Anemone (*Aiptasia pallida*) Nematocyst Venom. *Toxicon* 37: 1779-1796, 1999.
60. Grotendorst, G. R. and D. A. Hessinger: Enzymatic Characterization of the Major Phospholipase A2 Component of Sea Anemone (*Aiptasia pallida*) Nematocyst Venom. *Toxicon* 38: 931-943, 2000.
61. Kothapalli, D. and G. R. Grotendorst: CTGF Modulates Cell Cycle Progression in cAMP-Arrested NRK Fibroblasts. *J. Cell. Physiol.* 182: 119-126, 2000.
62. Folger, P. A., D. Zekaria, G. Grotendorst and S. K. Masur: Transforming Growth Factor- β -Stimulated Connective Tissue Growth Factor Expression During Corneal Myofibroblast Differentiation. *Invest. Ophthalmol. Vis. Sci.* 11: 2534-2541, 2001.
63. Kasaragod, A. B., M. S. Lucia, G. Cabirac, G. R. Grotendorst and K. R. Stenmark: Connective Tissue Growth Factor Expression in Pediatric Myofibroblastic Tumors. *Pediatr. Dev. Pathol.* 4: 37-45, 2001.
64. Gore-Hyer, E., D. Shegogue, M. Markiewicz, S. Lo, D. Hazen-Martin, E. L. Greene, G. Grotendorst and M. Trojanowska: TGF- β and CTGF have Overlapping and Distinct Fibrogenic Effects on Human Renal Cells. *Am. J. Physiol. Renal Physiol.* 283(4): F707-F716, 2002.
65. Hayashi, N., T. Kakimuma, Y. Soma, G. R. Grotendorst, K. Tamaki, M. Harada and A. Igarashi: Connective Tissue Growth Factor is Directly Related to Liver Fibrosis. *Hepatology* 49(43): 133-135, 2002.
66. Thaler, K., J. A. Mack, R. H. Zhao, M. Berho, G. R. Grotendorst, M. R. Duncan, S. Williams, J. R. Miranda, S. D. Wexner and S. R. Abramson: Expression of Connective Tissue Growth Factor in Intra-abdominal Adhesions. *Dis. Colon Rectum* 45(11): 1510-1519, 2002.
67. van Setten, G. B., T. D. Blalock, G. Grotendorst and G. S. Schultz: Detection of Connective Tissue Growth Factor in Human Aqueous Humor. *Ophthalmic Res.* 34(5): 306-308, 2002.
68. Blalock, T. D., M. R. Duncan, J. C. Varela, M. H. Goldstein, S. S. Tuli, G. R. Grotendorst and G. S. Schultz: Connective Tissue Growth Factor Expression and Action in Human Corneal Fibroblast Cultures and Rat Corneas After Photorefractive Keratectomy. *Invest. Ophthalmol. Vis. Sci.* 44(5): 1879-1887, 2003.
69. Chen, G., G. Grotendorst, T. Eichholtz and N. Khalil: GM-CSF Increases Airway Smooth Muscle Cell Connective Tissue Expression by Inducing TGF- β Receptors. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 284(3): L548-L556, 2003.
70. Daniels, J. T., G. S. Schultz, T. D. Blalock, Q. Garrett, G. R. Grotendorst, N. M. Dean and P. T. Khaw: Mediation of Transforming Growth Factor- β_1 -Stimulated Matrix Contraction by Fibroblasts: A Role for Connective Tissue Growth Factor in Contractile Scarring. *Am. J. Pathol.* 163(5): 2043-2052, 2003.
71. Gore-Hyer, E., J. Pannu, E. A. Smith, G. Grotendorst and M. Trojanowska: Selective Stimulation of Collagen Synthesis in the Presence of Co-stimulatory Insulin Signaling by Connective Tissue Growth Factor in Scleroderma Fibroblasts. *Arthritis Rheum.* 48(3): 798-806, 2003.

72. Van Setten, G., M. Aspiotis, T. D. Blalock, G. Grotendorst and G. Schultz: Connective Tissue Growth Factor in Pterygium: Simultaneous Presence with Vascular Endothelial Growth Factor - Possible Contributing Factor to Conjunctival Scarring. *Graefes Arch. Clin. Exp. Ophthalmol.* 241(2): 135-139, 2003.
73. Van Setten, G. B., T. D. Blalock, G. Grotendorst and G. S. Schultz: Detection of Connective Tissue Growth Factor (CTGF) in Human Tear Fluid: Preliminary Results. *Acta Ophthalmol. Scand.* 81(1): 51-53, 2003.
74. Xu, Y. D., J. Hua, A. Mui, R. O'Connor, G. Grotendorst and N. Khalil: Release of Biologically Active TGF- β 1 by Alveolar Epithelial Cells Results in Pulmonary Fibrosis. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 285(3): L527-L539, 2003.
75. Esson, D. W., A. Neelakantan, S. A. Iyer, T. D. Blalock, L. Balasubramanian, G. R. Grotendorst, G. S. Schultz and M. B. Sherwood: Expression of Connective Tissue Growth Factor After Glaucoma Filtration Surgery in a Rabbit Model. *Invest. Ophthalmol. Vis. Sci.* 45(2): 485-491, 2004.
76. Garrett, Q., P. T. Khaw, T. D. Blalock, G. S. Schultz, G. R. Grotendorst and J. T. Daniels: Involvement of CTGF in TGF- β 1-Stimulation of Myofibroblast Differentiation and Collagen Matrix Contraction in the Presence of Mechanical Stress. *Invest. Ophthalmol. Vis. Sci.* 45(4): 1109-1116, 2004.
77. Grotendorst, G. R., H. Rahmanie and M. R. Duncan: Combinatorial Signaling Pathways Determine Fibroblast Proliferation and Myofibroblast Differentiation. *FASEB J.* 18(3): 469-479, 2004.
78. Grotendorst, G. R. and M. R. Duncan: Individual Domains of Connective Tissue Growth Factor Regulate Fibroblast Proliferation and Myofibroblast Differentiation. *FASEB J.* 19(7): 729-738, 2005.
79. Kale, S., J. I. Hanai, B. Chan, A. Karihaloo, G. Grotendorst, L. G. Cantley and V. P. Sukhatme: Microarray Analysis of In Vitro Pericyte Differentiation Reveals an Angiogenic Program of Gene Expression. *FASEB J.* 19(2): 270-271, 2005.
80. Thaler, K., J. A. Mack, M. Berho, G. Grotendorst, S. D. Wexner and S. R. Abramson: Coincidence of Connective Tissue Growth Factor Expression with Fibrosis and Angiogenesis in Postoperative Peritoneal Adhesion Formation. *Eur. Surg. Res.* 37(4): 235-241, 2005.
81. Wu, S., J. Peng, M. R. Duncan, K. Kasisomayajula, G. Grotendorst and E. Bancalari: ALK-5 Mediates Endogenous and TGF- β 1-Induced Expression of Connective Tissue Growth Factor in Embryonic Lung. *Am. J. Respir. Cell Mol. Biol.* 36(5): 552-561, 2007. PMID: PMC1899336
82. Weber, W. M., D. A. Kracko, M. R. Lehman, C. M. Irvin, L. F. Blair, R. K. White, J. M. Benson, G. R. Grotendorst, Y. S. Cheng and J. D. McDonald: Inhalation Exposure Systems for the Development of Rodent Models of Sulfur Mustard-Induced Pulmonary Injury. *Toxicol. Mech. Methods* Dec 21 [Epub ahead of print], 2009.
83. Mishra, N. C., J. Rir-Sim-Ah, T. March, W. Weber, J. Benson, R. Jaramillo, J.C. Seagrave, G. Schultz, G. Grotendorst and M. Soporì: Sulfur Mustard Induces Immune Sensitization in Hairless Guinea Pigs. *Int. Immunopharmacol.* 10(2): 193-199, 2010.

U.S. PATENTS

1. United States Patent 5,408,040 Connective Tissue Growth Factor, Issued April 18, 1995.
2. United States Patent 5,585,270 Polynucleotides Encoding Connective Tissue Growth Factor, Issued December 17, 1996.
3. United States Patent 5,770,209 Acceleration of Wound Healing Using Connective Tissue Growth Factor, Issued June 23, 1998.
4. United States Patent 5,783,187 Treatment of Cell Proliferative Disorders Using Antibodies Which Bind Connective Tissue Growth Factor, Issued July 21, 1998.

5. United States Patent 5,804,176 Compositions Comprising Leukocyte-Derived Growth Factors and Methods of Administering Same to Facilitate Wound Healing, Issued September 8, 1998.
6. United States Patent 5,837,258 Induction of Tissue, Bone or Cartilage Formation Using Connective Tissue Growth Factor, Issued November 17, 1998.
7. United States Patent 5,849,534 DNA Encoding Leukocyte Derived Growth Factor-2 (LDGF-2), Issued December 15, 1998.
8. United States Patent 5,916,756 Assay of Connective Tissue Growth Factor for Detection of Cell Proliferative Disorders, Issued June 29, 1999.
9. United States Patent 6,069,006 Connective Tissue Growth Factor (CTGF) Regulatory Nucleic Acid Sequences, Issued May 30, 2000.
10. United States Patent 6,149,916 Methods of Accelerating Wound Healing or Stimulation of Connective Tissue Cell Growth Using Connective Tissue Growth Factor, Issued November 21, 2000.
11. United States Patent 6,150,101 Methods of Identifying a Composition that Alters Connective Tissue Growth Factor Expression, Issued November 21, 2000.
12. United States Patent 6,190,884 Connective Tissue Growth Factor, Issued February 20, 2001.
13. United States Patent 6,232,064 Methods of Diagnosing a Pathology Characterized by a Cell Proliferative Disorder Associated with Connective Tissue Growth Factor, Issued May 15, 2001.
14. United States Patent 6,464,983 Methods and Uses of Connective Tissue Growth Factor for Differentiation of Mesenchymal Stem Cells, Issued October 15, 2002.
15. United States Patent 6,492,129 Fragments of Connective Tissue Growth Factor that Induce Extracellular Matrix Synthesis, Collagen Synthesis and/or Myofibroblast Differentiation, Issued December 10, 2002.
16. United States Patent 6,673,893 Leukocyte Derived Growth Factor-2, Issued January 6, 2004.