

Curriculum Vitae

Contact Info: Department of Cell Biology
Ethics in Science and Medicine Program
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Education:

1966 AB, Chemistry, Clark University, Worcester, MA
1970 Ph.D., Biochem, Tufts Univ Sch Med, Boston, MA (with Jon Nishimura)
1970-1972 Research Fellow, Biochem Res Sect, VA Hosp, Dallas, TX (with Paul Srere)
1976-1980 Readings in Philosophy, Southern Methodist University (with Richard Zaner and David Hausman)

Professional Experience:

1972-1977 Assistant Professor of Cell Biology, UT Southwestern
1977-1981 Associate Professor of Cell Biology, UT Southwestern
1981 Visiting Fellow, Departments of Biology (with J.P. Trinkaus) and Philosophy (with Maurice Natanson), Yale Univ, New Haven, CT
since 1981 Professor of Cell Biology, UT Southwestern
1998-2004 Founding Director, Ethics in Science and Medicine Program, UT Southwestern
2011 Interim Chair, Department of Cell Biology, UT Southwestern
since 2013 Robert McLemore Professor of Medical Science, UT Southwestern

Honors:

1982-1984 President, UT Southwestern Sigma Xi Society
1984 Meyerhoff Visiting Professor, Weizmann Institute, Rehovot, Israel
1988 Forchheimer Visiting Professor, Hebrew University, Jerusalem, Israel
1990 Visiting Scholar, The Hastings Center, Briarcliff Manor, NY
1995-1997 School Board President, Solomon Schechter Academy of Dallas
1999 Chair, Gordon Research Conference on Wound Repair
1999-2008 MERIT Award, NIGMS, NIH
2006 Co-Chair, Gordon Research Conference on Science and Technology Policy
2006-2007 President, UT Southwestern Faculty Senate
2010 *Everyday Practice of Science* shortlisted for the (U.K.) Royal Society 2010 Science Book Prize
2012 UT System Regent's Outstanding Teaching Award

2012 Elected AAAS Fellow, Section on History and Philosophy of Science
 2013 Elected member of Southwestern Academy of Teachers (SWAT)
 2013 Appointed Robert McLemore Professor of Medical Science, UT Southwestern
 2017 State of Texas Minnie Stevens Piper Professor Award
 2019 UT Southwestern Academy of Teachers (SWAT) Distinguished Biomedical
 Science Educator Award
 2020 UT System Shine Academy *Innovations in Health Science Education*
 Competition -- First Place award.

National Advisory Standing Committees:

1990-1994 NIH Cell Biol and Physiology (II) Study Section
 1992-1997 ASCB Public Policy Committee
 1992 NIH Strategic Plan Task Force (Code of Ethics Panel)
 1993-1999 ASBMB Public Policy Committee (1997, drafted the society's *Code of Ethics*)
 1994-1997 Board of Directors, Wound Healing Society (annual meeting chair 1995)
 1995-1996 AAAS, Scientific Integrity Video Project
 1996-1997 AAAS, Dialog Between Science and Religion Project
 1998-2004 FASEB, Science Policy Committee, (1999-2001; Chair: Human Subjects and
 Bioethics Subcommittee)
 2001-2002 Institute of Medicine, Committee on Assessing Integrity in Research
 Environments
 2000-2004 NIH, Peer Review Oversight Group (Advisory committee to the NIH deputy
 director for extramural research)
 2011-2013 Healthpoint/Smith&Nephew, Cellular Therapy Scientific Advisory Board
 since 2011 Shriners Hospitals for Children Research Advisory Board
 2013-2019 AAAS, National Conference of Lawyers and Scientists (co-chair 2016-2019)
 2016-2018 AAAS, Council Delegate (Representing Section L -- History and Philosophy of
 Science)

North Texas Advisory Standing Committees:

since 2002 Faculty Advisory Committee, Cary M. Maguire Center for Ethics and Public
 Responsibility, Southern Methodist University
 since 2004 Convener, North Texas Bioethics Network
 since 2015 Advisory Panel, Tsai Center for Law, Science and Innovation, Southern
 Methodist University

UT Southwestern Advisory Standing Committees:

1988-1999 Institutional Review Board for Human Research
 1994-2018 Conflict of Interest Oversight committee (co-chair, 2013-2018)
 2003-2007 Faculty Senate
 since 2017 Stem Cell Oversight committee
 since 2018 Faculty Senate
 2019-2021 Institutional Conflict of Interest Oversight committee

since 2019 Student Promotions Committee
since 2022 Volunteer Faculty Appointment and Promotions Committee

Current Teaching:

Introduction to Biomedical Ethics (12 hr. enrichment elective for MS1 students)
MS1, MS2, MS3, MS4 Colleges -- ethics facilitator for 11 sessions
Research Integrity Lectures for 1st yr. graduate students, medical students doing summer research, summer undergraduate research fellows, and summer STARS students
Human Research Ethics Lecture for medical students doing summer research
Microanatomy Laboratory/Histology of Bone and Cartilage (for MS1 students)

Memberships: American Association for the Advancement of Science; American Society for Cell Biology; National Association for Research in Science Teaching; National Science Teachers Association; Philosophy of Science Association

Research focus:

1970-2015 Experimental Cell Biology
since 1978 Philosophy of Science, Biomedical ethics
since 2015 Science Education

Research funding history:

1973-1992 NIH R01 CA014629 Molecular Basis of Cellular Adhesiveness - PI
1978-1985 NIH R01 HL024221 Blood Material Interactions: Adsorption of Fibronectin - PI
1982-2013 NIH R01 GM031321 Development of an In Vitro Wound Healing Model- PI
1995-1999 NIH P50 GM021681 Altered Mechanisms of Wound Repair in Thermal Burn
1999 NIH R13 AR046168 Gordon Conference on Wound Repair (meeting grant) - PI
2001-2004 NIH G13 LM007526 The Everyday Practice of Science (scholarly works) - PI

Patents:

1. Grinnell, F. (September 18, 1990) US Patent# 4,957,902, Peptide inhibitors of wound contraction.
2. Grinnell, F. (December 14, 1993), US Patent# 5,270,168, Method for diagnosing non-healing ulcers.
3. Grinnell, F. and Lin, Y-C. (April 21, 1998) US Patent# 5,741,777, Modulation of wound contraction by blocking protein tyrosine phosphatase.

Bibliography

Books:

1. Grinnell, F. (1987) *The Scientific Attitude*, 1st Edition, Westview Press, Boulder, Co., (1992) *2nd Edition*, Guilford Press, New York, NY.

2. Grinnell, F. (2009) *Everyday Practice of Science: Where Intuition and Passion Meet Objectivity and Logic*, Oxford University Press, New York, N.Y. In 2010, *Everyday Practice of Science* shortlisted for the UK Royal Society Science Book Prize

3. Elliott, S.L., Fischer, B. A., Grinnell, F., and Zigmond, M. J., Eds. (2015) *Perspectives on Research Integrity*, ASM Press, Washington, D.C.

Ethics and Philosophy Related Publications:

1. Grinnell, F. (1983) Studies on intersubjectivity: A comparison of Martin Buber and Alfred Schutz. *Human Studies* 6: 185-195.

2. Grinnell, F. (1984) Approaching religion positively: An existential Jewish perspective. *Religion and Intellectual Life* 1: 88-98.

3. Grinnell, F. (1986) Complementarity: An approach to understanding the relationship between science and religion. *Perspectives in Biology and Medicine* 29: 292-301.

4. Grinnell, F. (1987) Harry Redner's "Pathologies of science." *Social Epistemol.* 1: 269-271. (Comment)

5. Grinnell, F. (1990) The endings of clinical research protocols: Understanding the difference between therapy and research. *IRB.* 12: 1-4

6. Grinnell, F. (1993) Industrial sponsors and the scientist. *J. NIH Research.* 5: 50-51.

7. Grinnell, F. (1994) Radical intersubjectivity: Why naturalism is an assumption necessary for doing science. In *Darwinism: Science or Philosophy?* ed. J. Buell and V. Hearn, Foundation for Thought and Ethics, Richardson, pp 99-106

8. Grinnell, F. (1994) Response to Peter van Inwagen: The problem of knowledge. In *Darwinism: Science or Philosophy?* ed. J. Buell and V. Hearn, Foundation for Thought and Ethics, Richardson, pp 192-194 (Comment)

9. Grinnell, F. (1995) COSEPUP on responsible science. *Biology and Philosophy*, 10: 229-233. (Book Review)

10. Grinnell, F. (1996) Publishing science responsibly. (Book Review) *Biology and Philosophy*, 11: 121-125.

11. Grinnell, F. (1996) Ambiguity in the practice of science. *Science*, 272: 333. (Editorial)

12. Grinnell, F. (1996) UT Southwestern -- Impact of Nobel Prizes. Nobel Foundation Website: <https://www.nobelprize.org/prizes/uncategorized/ut-southwestern-impact-of-nobel-prizes/>

13. Grinnell, F. (1997) Truth, fairness, and the definition of scientific misconduct, *J. Lab. Clin. Med.* 129: 189-192.
14. Grinnell, F. (1999) Ambiguity, trust, and the responsible conduct of science. *Science and Engineering Ethics.* 5: 205-214.
15. Grinnell, F. (1999) Responsibility, conflict, and ambiguity in the management of biomedical research laboratories. In: *Management of Biomedical Research Laboratories*, ed. T.P. Davis, University of Arizona Board of Regents, Tuscon, Arizona. pp 29-38.
16. Grinnell, F. (1999) Are scientific papers examples of rhetoric? *Science and Engineering Ethics.* 5: 487-488. (Comment)
17. Grinnell, F. (2000) Philosophy of biology and the human genome project. (Book Review) *Biology and Philosophy.* 15: 595-601.
18. Grinnell, F. (2000) The practice of science at the edge of knowledge. *Chronicle of Higher Education.* 46(29): B11-12.
19. Grinnell, F., Bishop, J.P., and McCullough, L.B. (2002) Bioethical pluralism and complementarity. *Perspectives in Biology and Medicine.* 45: 338-349.
20. Grinnell, F. (2002) The impact of ethics on research. *Chronicle of Higher Education.* 49(6): B15.
21. Grinnell, F. (2002) Doing science. *Knowledge, Technology & Policy,* 15: 204-210.
22. Grinnell, F. (2003) Defining embryo death would permit important research. *Chronicle of Higher Education.* 49(36): B13.
23. Grinnell, F. (2004) Human embryo research: From moral uncertainty to death. *American Journal of Bioethics.* 4: 12-13. (Comment)
24. Grinnell, F. (2004) Subject vulnerability: The precautionary principle of human research. *American Journal of Bioethics.* 4: 72-74 (Comment)
25. Grinnell, F. (2005) Misconduct: acceptable practices differ by field. *Nature.* 436: 776. (Letter)
26. Grinnell, F. (2006) Intelligent design: fallacy recapitulates ontogeny. *FASEB J.* 20: 410-1.
27. Grinnell, F. (2009) Intelligent design or intelligible design: It's a matter of faith. *Chronicle of Higher Education.* 55(18): B5
28. Grinnell, F. (2009) Discovery in the lab: Plato's paradox and Delbrück's principle of limited sloppiness. *FASEB J.* 23: 7-9.

29. Grinnell, F. (2011) Evolution of credibility. *TheScientist* 25: 76.
30. Grinnell, F. (2011) *The Age of Wonder* (Book Review). *J. Interdisciplinary Studies*. 23: 201-202.
31. Grinnell, F. (2013) Research integrity and everyday practice of science. *Science and Engineering Ethics*. 9: 685-701.
32. Grinnell, F. (2013) It is time to update US biomedical funding. (World View) *Nature*. 501: 137.
33. Grinnell, F. (2014) The interrelationship between research integrity, conflict of interest, and the research environment. *J. Microbiol Biol Educ*. 15: 162-164.
34. Fischer, B.A., Grinnell, F., and Zigmond MJ. (2014) Introductory comments for the scientific ethics theme. *J Microbiol Biol Educ*. 15: 82
35. Grinnell, F. (2015) Review of Harry Collins, *Are We All Scientific Experts Now?* *Br. J. Hist. Sci.* 48: 540-541.
36. Grinnell, F. (2015) Rethink our approach to assessing risk. (World View) *Nature*. 522: 257.
37. Grinnell, F. (2016) Objectivity. In *Vocabulary for the Study of Religion*. Ed. Robert Segal and Kocku von Stuckrad. Leiden: Brill Online Reference Works.
38. Grinnell, F., Dalley, S., Shepherd, K., and Reisch, J. (2017) High school science fair and research integrity. *PLOS ONE*. 12 (3), e0174252
39. Grinnell, F., Sadler, J.Z., McNamara, V. Senetar, K., and Reisch, J. (2017) Confidence of IRB Members in their Assessments of Human Research Risk: A Study of IRB Decision-Making in Action. *J Empr Res Human Res Ethics*. 12: 140-149
40. Grinnell, F., Dalley, S., Shepherd, K., and Reisch, J. (2018) High school science fair: Student opinions regarding whether participation should be required or optional and why. *PLOS ONE*. 13 (8), e0202320
41. Grinnell, F. (2018) Teaching research integrity – Using history and philosophy of science to introduce ideas about the ambiguity of research practice. *HPS&ST Newsletter Opinion Page*, November <https://www.hpsst.com/uploads/6/2/9/3/62931075/novemberoped2018.pdf>
42. Grinnell, F. (2019) Abduction in Everyday Practice of Science: The Logic of Unintended Experiments. *Transactions of the Charles S. Peirce Society*. 55(3): 215-227
43. Grinnell, F., Dalley, S., and Reisch, J. (2020) High School Science Fair: Positive and Negative Outcomes - *PLOS ONE*. 15 (2), e0229237

44. Grinnell, F. and Dalley, S. (2020) How to Make Science Fairs More Effective. NSTA Reports. 31(5): 3.
45. Grinnell, F. (2020) Reinventing Science Fairs. Issues in Science and Technology. 36(3): 23-25
46. Grinnell, F. (2020) Biomedical ethics 2.0: redefining the meaning of disease, patient and treatment. Nature Reviews Molecular Cell Biology. 21: 417-418
47. Grinnell, F., Dalley, S., and Reisch, J. (2021) High School Science Fair: Experiences of two groups of undergraduate bioscience majors. PLoS ONE 16(6): e0252627
48. Scientific inquiry, pluralism and complementarity (2021) <https://edarxiv.org/gejwv/>
49. Grinnell, F., Dalley, S., and Reisch, J. (2022) High School Science Fair: Ethnicity trends in student participation and experience. PLoS ONE 17(3): e0264861.
50. Grinnell, F. and Dalley, S. (2022) High school science and engineering fairs: Lessons learned. Connected Science Learning, <https://www.nsta.org/connected-science-learning/connected-science-learning-september-october-2022/high-school-science>

Experimental Science (Refereed Papers):

1. Grinnell, F. L. and Nishimura, J. S. (1969) Succinic thiokinase of Escherichia coli. Purification of the enzyme and exchange reactions catalyzed by the enzyme. Biochemistry 8: 562-567.
2. Grinnell, F. L. and Nishimura, J. S. (1969) The mechanism of the succinic thiokinase reaction. Effector role of desulfo-CoA in succinyl phosphate formation. Biochemistry 8: 568-574.
3. Grinnell, F. L. and Nishimura, J. S. (1969) Studies on the catalytic mechanism of Escherichia coli succinic thiokinase. Biochemistry 8: 4126-4130.
4. Grinnell, F. L., Stollar, B. D., and Nishimura, J. S. (1969) Reversible disaggregation of Escherichia coli succinyl-CoA synthetase. Biochim. Biophys. Acta 185: 471-474.
5. Grinnell, F. and Nishimura, J. S. (1970) The inactivation and dissociation of Escherichia coli succinyl-CoA synthetase by sulfhydryl reagents. Biochim. Biophys. Acta 212: 150-157.
6. Grinnell, F. and Srere, P. A. (1971) Inhibition of cellular adhesiveness by sulfhydryl blocking reagents. J. Cell. Physiol. 78: 153-158.
7. Grinnell, F. and Lee, J. C. (1972) Alterations in hemoglobin synthesis during chick embryogenesis. J. Cell. Physiol. 79: 111-116.

8. Grinnell, F., Milam, M., and Srere, P. A. (1972) Studies on cell adhesion. II. Adhesion of cells to surfaces of diverse chemical composition and inhibition of adhesion of sulfhydryl binding reagents. *Arch. Biochem. Biophys.* 153: 193-198.
9. Nishimura, J. S., Mitchell, J. P., and Grinnell, F. (1973) Immunological studies of *Escherichia coli* succinic thiokinase. Effects of sulfhydryl reagents and other treatments of the enzyme. *J. Biol. Chem.* 248: 743-748.
10. Grinnell, F., Milam, M., and Srere, P. A. (1973) Attachment of normal and transformed hamster kidney cells to substrata varying in chemical composition. *Biochem. Med.* 7: 87-90.
11. Grinnell, F., Milam, M., and Srere, P. A. (1973) Cyclic AMP does not affect cell stickiness. *Nature New Biol.* 241: 82-83.
12. Grinnell, F., Milam, M., and Srere, P. A. (1973) Studies on cell adhesion. III. Adhesion of Baby hamster kidney cells. *J. Cell Biol.* 56: 659-665.
13. Milam, M., Grinnell, F., and Srere, P. A. (1973) The effect of centrifugation on cell adhesion. *Nature New Biol.* 244: 83-84.
14. Grinnell, F. (1973) Concanavalin A increases the strength of cell attachment to a substratum. *J. Cell Biol.* 58: 602-607.
15. Grinnell, F. (1974) Studies on the mechanism of cell attachment to a substratum: Evidence for three biochemically distant processes. *Arch. Biochem. Biophys.* 160: 304-310.
16. Grinnell, F. (1974) Studies on the mechanism of cell attachment to a substratum with serum in the medium: Further evidence supporting a requirement for two biochemically distinct processes. *Arch. Biochem. Biophys.* 165: 524-530.
17. Grinnell, F. (1975) Cell Adhesion and cell surface proteases. *Arch. Biochem. Biophys.* 169: 474-482.
18. Grinnell, F., Tobleman, M. Q., and Hackenbrock, C. R. (1975) The Distribution and mobility of anionic sites on the surfaces of baby hamster kidney cells. *J. Cell Biol.* 66: 470-479.
19. Grinnell, F. (1976) The serum dependence of baby hamster kidney cell attachment to a substratum. *Exp. Cell Res.* 97: 265-274.
20. Grinnell, F., Anderson, R. G. W., and Hackenbrock, C. R. (1976) Glutaraldehyde induced alterations of membrane anionic sites. *Biochim. Biophys. Acta.* 426: 772-775.
21. Grinnell, F. (1976) Cell spreading factor: Occurrence and specificity of action. *Exp. Cell Res.* 102: 51-62.

22. Grinnell, F., Tobleman, M. Q., and Hackenbrock, C. R. (1976) Initial attachment of baby hamster kidney cells to a non-living substratum: Ultrastructural analysis. *J. Cell Biol.* 70: 707-713.
23. Grinnell, F., Hays, D. G., and Minter, D. (1977) Cell adhesion and spreading factor: Partial purification and properties. *Exp. Cell Res.* 110: 175-190.
24. Grinnell, F. and Hays, D. G. (1978) Cell adhesion and spreading factor: Similarity to cold insoluble globulin in human serum. *Exp. Cell Res.* 115: 221-229.
25. Grinnell, F. and Hays, D. G. (1978) Induction of active cell spreading by substratum adsorbed ligands directed against the cell surface. *Exp. Cell Res.* 116: 275-284.
26. Grinnell, F. and Minter, D. (1978) Attachment and spreading of baby hamster kidney cells to collagen substrata. *Proc. Natl. Acad. Sci. USA* 75: 4408-4412.
27. Grinnell, F. and Minter, D. (1979) Cell adhesion and spreading factor: The effect of chemical modifications on factor activity. *Biochem. Biophys. Acta.* 550: 92-99.
28. Grinnell, F. and Feld, M. (1979) Initial adhesion of human fibroblasts in serum-free medium: Possible role of secreted fibronectin. *Cell* 17: 117-129.
29. Grinnell, F., Feld, M., and Snell, W. (1979) The influence of cold in-soluble globulin on platelet morphological response to substrata. *Cell Biol. Internat. Reports* 3: 585-592.
30. Grinnell, F. and Hays, D. (1979) Measurement of anionic sites on the surfaces of baby hamster kidney cells using radiolabeled polycationic ferritin. *Anal. Biochem.* 97: 400-402.
31. Hewitt, K., Beer, A. E., and Grinnell, F. (1979) Disappearance of anionic sites from the surface of the rat endometrial endothelium at the time of blastocyst implantation. *Biol. Reprod.* 21: 691-707.
32. Grinnell, F., Feld, M., and Minter, D. (1980) Cell adhesion to fibrinogen and fibrin substrata: Requirement for cold insoluble globulin. *Cell* 19: 517-525.
33. Grinnell, F. (1980) The fibroblast receptor for cell-substratum adhesion: Studies on the interaction of baby hamster kidney cells with latex beads coated by cold insoluble globulin (plasma fibronectin). *J. Cell Biol.* 86: 104-112.
34. Grinnell, F. and Feld, M. (1980) Spreading of human fibroblasts in serum free medium: Inhibition by dithiothreitol and the effect of cold insoluble globulin (plasma fibronectin). *J. Cell. Physiol.* 104: 321-334.
35. Grinnell, F. (1980) Visualization of cell-substratum adhesion plaques by antibody exclusion. *Cell Biol. Internat. Reports.* 4: 1031-1036.

36. Grinnell, F., Billingham, R. E., and Burgess, L. (1981) Distribution of fibronectin during wound healing in vivo. *J. Invest. Dermatol.* 76: 181-189.
37. Grinnell, F. and Bennett, M. H. (1981) Fibroblast adhesion on collagen substrata in the presence and absence of plasma fibronectin. *J. Cell Science.* 48: 19-34.
38. Oppenheimer-Marks, N. and Grinnell, F. (1981) Effect of plant lectins on the adhesive properties of baby hamster kidney cells. *European J. Cell Biol.* 23: 286-294.
39. Grinnell, F. and Feld, M. (1981) Adsorption properties of fibronectin in relationship to biological activity. *J. Biomed. Materials Res.* 15: 363-381.
40. Grinnell, F. and Feld, M., (1981) Distribution of fibronectin on peripheral blood cells in freshly clotted blood. *Thromb. Res.* 24: 397-404.
41. Grinnell, F. and Feld, M. (1982) Fibronectin adsorption on hydrophilic and hydrophobic surfaces detected by antibody binding and analyzed during cell adhesion in serum-containing medium. *J. Biol. Chem.* 257: 4888-4893.
42. Grinnell, F., Head, J. R., and Hoffpauir, J. (1982) Fibronectin and cell shape in vivo: Studies on the endometrium during pregnancy. *J. Cell Biol.* 94: 597-606.
43. Grinnell, F. (1982) Migration of human neutrophils in hydrated collagen lattices. *J. Cell Science.* 58: 95-108.
44. McAbee, D. D. and Grinnell, F. (1982) Sulfhydryl sensitive sites in cell adhesion: Decreased entry of -SH binding reagents into attached BHK cells. *Biochem. J.* 208: 473-478.
45. Oppenheimer-Marks, N. and Grinnell, F. (1982) Inhibition of fibronectin receptor function by antibodies against BHK cell wheat germ agglutinin receptors. *J. Cell Biol.* 95: 876-884.
46. Grinnell, F., Lang, B. R., and Phan, T. V. (1982) Detection of fibronectin receptors on the surfaces of BHK cells in suspension. *Exp. Cell Res.* 142: 499-504.
47. Grinnell, F. and Marshall, J. (1982) Coating bacteriological dishes with fibronectin permits spreading and growth of human diploid fibroblasts. *Cell Biol. Int. Reports* 6: 1013-1018.
48. Grinnell, F. and Phan, T. V. (1983) Deposition of Fibronectin onto artificial material surfaces from human plasma and blood under clotting and non-clotting conditions. *J. Cell. Physiol.* 116: 289-296.
49. McAbee, D. D. and Grinnell, F. (1983) Fibronectin-mediated binding and phagocytosis of polystyrene latex beads by baby hamster kidney cells. *J. Cell Biol.* 97: 1515-1523.
50. Grinnell, F. (1984) Manganese-dependent cell-substratum adhesion. *J. Cell Sci.* 65: 61-72.

51. Grinnell, F. and Lamke, Cheryl R. (1984) Reorganization of hydrated collagen lattices by human skin fibroblasts. *J. Cell Science*. 66: 51-63.
52. Grinnell, F. (1984) Fibroblast spreading and phagocytosis: Similar cell responses to different sized substrata. *J. Cell Physiol*. 119: 58-64.
53. Oppenheimer-Marks, N., Border, B., and Grinnell, F. (1984) BHK cell variants with defective fibronectin receptor function. *Cell Biol. Int. Reports* 8: 171-178.
54. Oppenheimer-Marks, N. and Grinnell, F. (1984) Calcium ions protect cell substratum adhesion receptors against proteolysis: Evidence from immunoabsorption and electoblotting studies. *Exp. Cell Res*. 152: 467-475.
55. Takashima, A. and Grinnell, F. (1984) Human keratinocyte adhesion and phagocytosis promoted by fibronectin. *J. Invest. Dermatol*. 83: 352-358.
56. Takashima, A. and Grinnell, F. (1985) Fibronectin-mediated keratinocyte migration and onset of fibronectin receptor function in vitro. *J. Invest. Dermatol*. 85: 304-308.
57. McAbee, D. D. and Grinnell, F. (1985) Binding and phagocytosis of fibronectin-coated beads by BHK cells: Receptor specificity and dynamics. *J. Cell Phys.*, 124: 240-246.
58. Grinnell, F. and Phan, T. V. (1985) Platelet attachment and spreading on polystyrene surfaces: Dependence of fibronectin and plasma concentration. *Thrombosis Research* 39: 165-171.
59. Guidry, C. and Grinnell, F. (1985) Studies on the mechanism of hydrated collagen gel reorganization by human skin fibroblasts. *J. Cell Sci*. 79: 67-81.
60. Shiba, Y. and Grinnell, F. (1985) Characteristics of a BHK cell variant defective in the cell-substratum contact process. *J. Cell. Phys*. 125: 449-455.
61. Grinnell, F. and Geiger, B. (1986) Interaction of fibronectin-coated beads with attached and spread fibroblasts. Binding, phagocytosis, and cytoskeletal reorganization. *Exp. Cell Res*. 162: 449-461.
62. Takashima, A., Billingham, R. E., and Grinnell, F. (1986) Activation of rabbit keratinocyte fibronectin receptor function in vivo during wound healing. *J. Invest. Dermatol*. 86: 585-590.
63. Grinnell, F., Takashima, A., and Lamke-Seymour, C. (1986) Morphological appearance of epidermal cells cultured on fibroblast reorganized collagen gels. *Cell and Tissue Research* 246: 13-21.
64. Grinnell, F. (1986) Focal adhesion sites and the removal of substratum-bound fibronectin. *J. Cell Biol*. 103: 2697-2706.

65. Guidry, C. and Grinnell, F. (1986) Contraction of hydrated collagen gels by fibroblasts: Evidence for two mechanisms by which collagen fibrils are stabilized. *Collagen and Related Research*. 6: 515-529.
66. Toda, K.-I. and Grinnell, F. (1987) Activation of human keratinocyte adhesion during cell culture. *J. Invest. Dermatol.* 88: 412-417.
67. Grinnell, F., Toda, K.-I. and Lamke-Seymour, C. (1987) Reconstitution of human epidermis in vitro is accompanied by transient activation of basal keratinocyte spreading. *Exp. Cell Res.* 172: 439-449.
68. Guidry, C. and Grinnell, F. (1987) Heparin modulates the supramolecular organization of hydrated collagen gels and inhibits gel contraction by fibroblasts. *J. Cell Biol.* 104: 1097-1103.
69. Toda, K.-I., Tuan, T.-L., Brown, P.J., and Grinnell, F. (1987) Fibronectin receptors of human keratinocytes and their expression during cell culture. *J. Cell Biol.* 105: 3097-3104
70. Wysocki, A., Baxter, C.R., Bergstresser, P.R., Grinnell, F., Horowitz, M.S., and Horowitz, B. (1988) Topical fibronectin therapy for treatment of a patient with chronic stasis ulcers. *Arch. Dermatol.* 124: 175-177.
71. Tuan, T.-L. and Grinnell, F. (1998) Wheat germ and *Ricinus communis* agglutinin binding sites of BHK cells compared to each other and to 140 kDa fibronectin receptors. *Biochem. J.* 251: 269-277
72. Grinnell, F., Ho, C-H., and Tuan, T-L. (1988) Cell adhesion and phagocytosis promoted by monoclonal antibodies not directed against fibronectin receptors. *J. Cell Sci.* 90: 201-214.
73. Grinnell, F., Fukazmizu, H., Pawelek, P., and Nakagawa, S. (1989) Collagen production, crosslinking, and fibril bundle assembly in matrix produced by fibroblasts in long term cultures supplemented with ascorbic acid. *Exp. Cell Res.* 181: 483-491.
74. Shiba, Y., Sasaki, Y., Kanno, Y., and Grinnell, F. (1989) Enhanced binding of fibronectin-coated latex beads to quiescent 3T3-L1 cells correlated with escape from growth arrest. *Exp. Cell Res.* 182: 144-151.
75. Nakagawa, S., Pawalek, P., and Grinnell, F. (1989) Extracellular matrix organization modulates fibroblast growth and growth factor responsiveness. *Exp. Cell Res.* 182: 572-582.
76. Grinnell, F., Nakagawa, S., and Ho, C-H. (1989) The collagen recognition sequence for fibroblasts depends on collagen topography. *Exp. Cell Res.* 182: 668-672.
77. Guo, M. and Grinnell, F. (1989) Basement membrane and human epidermal differentiation in vitro. *J. Invest. Dermatol.* 93: 372-378.

78. Tuan, T-L. and Grinnell, F. (1989) Fibronectin and fibrinolysis are not required for fibrin gel contraction by human skin fibroblasts. *J. Cellular Phys.* 140: 577-583.
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