

## ***Curriculum Vitae***

**James L. Sherley, M.D., Ph.D.**  
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**USA**

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### **Professional Appointments and Positions**

#### Fulltime

2013-present	Director The Adult Stem Cell Technology Center, LLC Boston, MA <a href="https://sites.google.com/site/adultstemcelltechnologycenter/">https://sites.google.com/site/adultstemcelltechnologycenter/</a>
2009-2013	Director The Adult Stem Cell Technology Center Boston Biomedical Research Institute Watertown, MA
2007-2013	Senior Scientist Boston Biomedical Research Institute Programs in Regenerative Biology and Cancer Biology
2003-2007 1998-2003	Associate Professor Assistant Professor Department of Biological Engineering Massachusetts Institute of Technology Cambridge, MA
1991-1998	Associate Member Department of Molecular Oncology Division of Medical Science Fox Chase Cancer Center Philadelphia, PA

#### Adjunct

2013-present	Associate Professor Rhode Island Hospital, Department of Hematology-Oncology Brown University
2011-present	Adjunct Professor School of Engineering and Technology Hampton University Hampton, VA

2003-present      Adjunct Associate Professor  
1993-2003      Adjunct Assistant Professor  
Department of Biochemistry  
Meharry Medical College  
Nashville, TN

### **Research Center Membership (MIT)**

2003-2007      Center for Cancer Research  
2001-2007      Biotechnology Process Engineering Center  
1998-2007      Center for Environmental Health Sciences

### **Post-doctoral Research**

1988-1991      Department of Molecular Biology  
Princeton University  
Princeton, NJ

### **Education**

1980-1988      The Johns Hopkins University School of Medicine  
Department of Molecular Biology and Genetics  
Baltimore, MD  
M.D.; Ph.D. in Molecular Biology

1976-1980      Harvard College  
Cambridge, MA  
B.A. in Biology

### **Awards and Honors**

2009      Harvard Medical School Biomedical Science Careers Program  
Honor Roll for Service to Students  
2006      NIH Director's Pioneer Award  
2006      *Science Spectrum* Trailblazer Award  
2005      Mentor Recognition Award, University of California, San Diego  
2005      MIT Martin Luther King, Jr. Leadership Award  
2003      Ellison Medical Foundation Senior Scholar Award  
2002      Month of August Featured Scholar on Pew Scholars Program Homepage  
(<http://www.futurehealth.ucsf.edu/pewscholar.html>)  
2001      Pew Scholars Science and Society Institute Inductee  
2000-2003      Samuel A. Goldblith Career Development Professorship  
1999, 2001      MIT Charles E. Reed Faculty Initiatives Fund Recipient  
1993      Pew Scholar Award in the Biomedical Sciences

## Research Grant History

### *Principal Investigator*

7/11-9/13	The Iacocca Family Foundation "Accelerating Industrial Development of Bioengineered Stem Cell Transplantation Therapies for Type I Diabetes" \$450,000 total direct costs
10/06-9/11	NIH Director's Pioneer Award, 1DP1OD000805 (OD) "Pioneering Human Adult Stem Cell Discovery and Cellular Medicine" \$4,000,000 total costs
2010	NIH-National Center for Research Resources Shared Instrumentation Grant "Amnis ImageStream System" \$431,500.00 total costs
10/03-10/08	Ellison Medical Foundation Senior Scholar Award In Aging Research "Identification of Chemical Age Spots on Immortal DNA Strands" \$904,970 total costs
12/03-12/08	NIH-NIEHS R01 "Kinetotoxic Mechanisms of Environmental Carcinogens" \$1,321,000 total costs
3/06-2/07	MIT Center for Cancer Research Koch Research Award "Investigation of an Adult Stem Cell Signature in Cancer Cells" \$50,000 total costs
8/05-8/06	Cambridge Isotope Laboratories, Inc. Research Award "Adult Stem Cell Identification and Aging" \$5000 total costs
7/05-7/06	MIT Center for Cancer Research Pilot Grant "Investigation of HSCs as Targets for Human Carcinogenesis" \$72,900 total costs
2/03-8/03	MIT-Center for Cancer Research Koch Award "Non-Random Chromosome Segregation and Cancer Mechanisms" \$100,000 total costs
8/02-6/03	MIT-Center for Environmental Health Sciences "Molecular Markers for Adult Stem Cells" \$25,000 total costs
6/00-6/03	MIT-BPEC (NSF) "Research for Adult Stem Cell Expansion" \$300,000 total costs

7/01-12/02 MIT Charles E. Reed Faculty Initiatives Fund  
"Stem Cell Mice"  
\$50,000 total costs

1/01-12/02 NIH Prog. Announcement in Cancer Prevention R03  
"The Plasma Purine Ratio: A New Biomarker for Cancer Risk"  
\$100,000 total direct costs

6/01-5/02 MIT-CEHS Pilot Grant for Kinetotoxic Carcinogen Research  
\$25,000 total costs

7/99-12/99 MIT Charles E. Reed Faculty Initiatives Fund  
\$50,000 total costs

7/96-6/97 Fox Chase Cancer Center, NCI Institutional Pilot Grant  
\$22,400 total direct costs

1/96-9/96 Fox Chase Cancer Center, Breast Cancer Program Pilot Grant  
\$25,000 total direct costs

7/93-7/97 Pew Scholar Award in the Biomedical Sciences  
\$200,000 total direct costs

4/93-4/95 W. W. Smith Charitable Trust  
\$71,000 total direct costs

1/93-1/97 National Institutes of Health/National Cancer Institute R01  
\$403,200 total direct costs

1/92-1/97 U. S. Healthcare, Incorporated Research Grant  
\$300,000 total direct costs

*Co-Investigator*

4/04-4/10 NIH- National Human Genome Research Institute  
"Molecular and Genomic Imaging Center"  
Subproject: "Applications of Polony Tech. To Adult Stem Cell Function"  
\$1,164,688 total direct costs

2004-05 NIH-National Human Genome Research Institute STTR  
"Multi-dim. Bio-Informatics for Genomic Data"  
\$30,000 total costs

9/00-8/04 DuPont-MIT Alliance  
"Informatics-Enhanced Tissue MicroArray Biosensor for Environmental  
Agents: Human Liver Stem Cell Expansion in Culture"  
Subproject: "Expansion of Human Adult Liver Stem Cells"  
\$505,000 total costs

8/98-7/02	Defense Advance Research Program Agency "Vascularized Tissue Sensors for Generic Toxin and Pathogen Detection" Salary support
1998	Rohm and Haas-Sponsored Fox Chase Cancer Center "Summer Fellowship for Underrepresented Scholars in Science" \$10,000 total direct costs (Author and co-director)
9/94-8/97	NSF-Research Centers in Minority Institutions Meharry Medical College \$229,304 total direct costs

## Administration

### BBRI

2012	Chair, BBRI Institutional Animal Care and Use Committee
2008-2013	Chair, Undergraduate Research Opportunity Core (UROCI) Committee
2008-2011	Member, Senior Faculty Search Committee
2007-2010	Member, Proteomics Faculty Search Committee
2008-2010	Member, Committee on Research Regenerative Biology Representative

### MIT

1999-2007	Member, Environmental Toxicology Training Grant Steering Committee
2003-2005	Member, Biological Engineering Major Curriculum Development Committee
2002-2005	Member, Biotechnology Training Grant Steering Committee
2002-2005	Advisor, MIT Student Biomedical Engineering Society
1999-2003	Chairman, Graduate Qualifying Exam Committee
1998-2001	Center for Environmental Health Sciences Executive Committee, Junior Faculty Liaison

### Fox Chase Cancer Center

1997	Advisor, Second Annual Postdoctoral Research Conference
1995	Co-founder and Member, Scientific Strategic Planning Group
1995	Member, Residents Review Council
1995	Chairman, First Annual Postdoctoral Research Conference
1994-1998	Member, Institutional Review Board
1993-1998	Member, Population Science Molecular Epidemiologist Search Committee
1992-1998	Expert Consultant in Molecular Oncology, Cancer Information Service
1994	Member, Reimann Chair Selection Committee
1993	Member, Search Committee for Senior Vice President of Medical Science
1993	Co-Organizer, Scientific Retreat
1992-1994	Member, Post-doctoral Training Committee
1992, 1994-97	Scientific Reviewer, <i>Fox Chase Cancer Center Scientific Report</i>

## **Professional Organization Memberships**

2013-present	Massachusetts Biotechnology Council
2006-2007	Women Entrepreneurs in Science and Technology, Invited Member
2003-2007	Biomedical Engineering Society
2002-2006	International Society for Stem Cell Research
2000-2005	Alliance for Cellular Signaling
	Author of molecular page on inosine monophosphate dehydrogenase
2000-2001	Boston Cancer Research Association
1998-present	American Society for Cell Biology
1996-present	American Association for Cancer Research (Invited membership)
1996-present	College of Physicians of Philadelphia
1992-present	American Association for the Advancement of Science

## **Peer Review**

2013-present	AAAS Research Competitiveness Service Strategic Technologies Programs for the Kingdom of Saudi Arabia King Abdulaziz City for Science and Technology (KACST) Program Technical Expert on Tissue Stem Cells
2008-2009	American Federation for Aging Research National Scientific Advisory Council Reviewer
2007-2009	NIH Director Pioneer Award Reviewer

## NIH Study Sections

2009	NIH-National Institute of Aging P01 Review Committee
1997	National Cancer Institute Scientific Meetings and Conferences Review Panel Reviewer
1997	National Cancer Institute Molecular Pathology of Human Cancer Panel Reviewer
1997	National Cancer Institute Cancer Manpower and Training Subcommittee Temporary Member

## Other Study Sections

1996, 1997	Fox Chase Cancer Center American Cancer Society Institutional Research Grant Committee Reviewer
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1996 Allegheny University of the Health Sciences  
Intramural Project Program  
External Reviewer

1995, 1996 Public Health Service  
Small Business Innovation Research (SBIR) Program  
Special Study Section-Y  
Reviewer

#### Site Visit Teams

1994 National Institute of General Medical Sciences  
Cellular and Molecular Basis of Disease Review Committee  
Medical Scientist Training Program Site Visit  
Special Reviewer

1993 National Institute of General Medical Sciences  
Medical Scientist Training Program Site Visit  
Ad Hoc Reviewer

1993 National Institute of General Medical Sciences  
Minority Biomedical Research Support Site Visit  
Reviewer

#### International Review

2011 Estonia Science Foundation, Post-doctoral Research Proposal Evaluator

2010 Guy's & Saint Thomas' Charity, London, UK

2005-present Australian Stem Cell Centre  
Consultant

1996 Dutch Cancer Society  
Extramural Reviewer

1994 Swiss National Science Foundation  
Invited Reviewer

#### Journal Review

1988-present Requested Reviews by Journal Editors  
*Aging Cell*  
*American Chemical Society Symposium Series*  
*American Journal of Pathology*  
*Biotechnology and Bioengineering*  
*Cancer Letters*  
*Cancer Research*  
*Carcinogenesis*  
*Cell*  
*Cell Death and Differentiation*

*Cellular Pharmacology*  
*Central European Journal of Biology*  
*Current Cancer Drug Targets*  
*Journal of Biological Chemistry*  
*Journal of Clinical Oncology*  
*Leukemia*  
*Molecular and Cellular Biochemistry*  
*Molecular Cancer*  
*Molecular Pharmacology*  
*Proceedings of the National Academy of Sciences*  
*Public Library of Science*  
*Stem Cells*  
*Stem Cells Translational Medicine*  
*Science*  
*The FASEB Journal*  
*Trends in Biotechnology*  
*Yearbook of Oncology*

1993-1995                      Standing Reviewer  
    *Molecular Pharmacology*  
    (Associate Editor, Kenneth D. Tew, Ph. D.)

Book reviewer

2005                              John Wiley & Son  
 2007                              Imperial College Press

**Editorial Appointments**

2014-present                  Editor, “Human Stem Cell Toxicology”  
    Royal Chemical Society  
    *In development*

2014-present                  Editor  
    *International Journal of Terraspace Science and Engineering*

2014                                Invited Research Topic Editor  
    *Frontiers in Oncology: Frontiers in Cancer Genetics*  
    Topic: “Stem Cell Genetic Fidelity”

2014                                Invited Special Issue Editor  
    *International Journal of Terraspace Science and Engineering*  
    Special Issue on “Bio-Mesomechanics: Perspectives and Retrospectives”

2011-present                  Editor, *ISRN Transplantation*

2006                                Invited Section Editor  
    *Current Opinion in Biotechnology*, Vol. 17, No.5, October 2006, 499-557.  
    “Tissue and cell engineering”

2005-present                  Editor, *International Journal of Biotechnology and Biochemistry*



2003-2007 Editor, *Stem Cell Reviews*  
2000-present Editor, *BioMed Research International* (previously *Journal of Biomedicine and Biotechnology*)

### **Advisory Committees**

2014 Conference Organizing Committee  
5<sup>th</sup> World Congress on Stem Cells and Stem Cell Research  
Symposium: "Stem Cell Medical Engineering"  
Chicago, Ill

2014 Conference Organizing Committee  
4<sup>th</sup> World Congress on Stem Cells and Stem Cell Research  
Symposium: "Stem Cell DNA Segregation and Genetic Fidelity"  
Valencia, Spain

2013-2014 Conference Organizing Committee  
First Annual Meeting on "Novel Stem Cells and Microvesicles"  
Rhode Island Hospital Stem Cell NIH Center of Biomedical Research  
Excellence (COBRE)  
Providence, RI

2011 Invited Online Participant  
NIH Common Fund Workshop on Single Cell Analysis  
April 28-29, 2011

2008-2011 National Toxicology Program  
Board of Scientific Counselors of the NIH

2006 American Association for Cancer Research  
Jane Cooke Wright Lectureship Selection Committee

2003-2005 National Cancer Institute  
Minority Investigator Career Development Program  
Mentor

1998 American Association for Cancer Research  
Cancer Genetics I: New Loci and Mechanisms of Genomic Alterations  
Section of the Molecular Biology Subcommittee, Program Committee

1997 American Association for Cancer Research  
Clowes Memorial Award Subcommittee

1996, 1997 College of Physicians of Philadelphia  
Program Committee

## Academic Advisory Boards

- 2006-present Rhode Island Hospital, Brown University  
NIH COBRE Center for Stem Cell Biology  
Member, External Advisory Committee
- 2005-present Roxbury Community Charter School, Boston, MA  
Member, Student Achievement Committee
- 2002-2005 Clark Atlanta University  
NSF-Research Centers for Minority Institutions  
Member, External Advisory Committee
- 2000-2008 Meharry Medical College/Vanderbilt-Ingram Cancer Center  
NCI U54 Cancer Partnership Alliance  
Chair, Program Steering Committee  
Author of 2002, 2005, 2008 Steering Committee Reports
- 1997 SAIC-NCI-FCRDC  
Member, National Search Committee for Director of Research Support  
Programs
- 1993-1997 Frederick Cancer Center Research and Development Center  
Advisory Committee Member  
Chairman for 1996 Review of Core Support Services

## Industry Scientific Advisory Boards

- 2014-present Thrive Bioscience  
Member, Scientific Advisory Board
- 2013-present Nemucore Medical Innovations, Inc.  
Member, Scientific Advisory Board
- 2013-present luventis Technology, Inc.  
Member, Scientific Advisory Board

## Research Publications

### Research Reports

- Loeblich, A. R., III and Sherley, J. L. (1979) "Observations on the Theca of the Motile Phase of Free-Living and Symbiotic Isolates of *Zooxanthella microadriatica* (Freudenthal) Comb. Nov.", *J. Mar. Biol. Ass. U. K.* 59, 195-205.
- Loeblich, A. R., III, Sherley, J. L., and Schmidt, R. J. (1979) "The Correct Position of Flagellar Insertion in *Prorocentrum* and Description of *Prorocentrum rathymum* Sp. Nov. (Pyrrhophyta)", *J. Plankton Res.* 1, 113-120.

- Loeblich, A. R., III, Sherley, J. L., and Schmidt, R. J. (1979) "Redescription of the Thecal Tabulation of *Scrippsiella gregaria* (Lombard and Capon) Comb. Nov. (Pyrrhophyta) with Light and Scanning Electron Microscopy", *Proc. Biol. Soc. Wash.* 92, 45-50.
- Lauer, G., Pastrana, R., Sherley, J., and Ptashne, M. (1981) "Construction of Overproducers of the Bacteriophage 434 Repressor and cro Proteins", *J. Mol. Appl. Genet.* 1, 139-147.
- Loeblich, A. R., III, Schmidt, R. J., and Sherley, J. L. (1981) "Scanning Electron Microscopy of *Heterocapsa pymaea* Sp. Nov. and Evidence for Polyploidy as a Speciation Mechanism in Dinoflagellates", *J. Plankton Res.* 3, 67-79.
- Sherley, J. L. and Kelly, T. J. (1988) "Human Cytosolic Thymidine Kinase: Purification and Physical Characterization of the Enzyme From HeLa Cells", *J. Biol. Chem.*, 263, 375-382.
- Sherley, J. L. and Kelly, T. J. (1988) "Regulation of Human Thymidine Kinase During the Cell Cycle", *J. Biol. Chem.*, 263, 8350-8358.
- Wold, M. S., Li, J. J., Weinberg, D. H., Virshup, D. M., Sherley, J. L., Verheyen, E., and Kelly, T. (1988) "Cellular Proteins Required for SV40 Replication In Vitro", *Cancer Cells* Vol. 6, 133-141. Cold Spring Harbor Laboratory, Cold Spring Harbor.
- Sherley, J. L. (1991) "Guanine Nucleotide Biosynthesis is Regulated by the Cellular p53 Concentration", *J. Biol. Chem.*, 266, 24815-24828.
- Stadler, P. B., Pennacchi, J., and Sherley, J. L. (1994) "Inosine-5'-Monophosphate Dehydrogenase Activity is Maintained in Immortalized Murine Cells Growth-Arrested by Serum Deprivation", *Advances in Enzyme Regulation*, 34, 91-106.
- Sherley, J. L., Stadler, P. B., and Johnson, D. R. (1995) "Expression of the Wild-type p53 Antioncogene Induces Guanine Nucleotide-Dependent Stem Cell Division Kinetics", *Proc. Natl. Acad. Sci.* 92, 136-140.
- Sherley, J. L., Stadler, P. B., and Stadler, J. S. (1995) "A Quantitative Method for the Analysis of Mammalian Cell Proliferation in Culture in Terms of Dividing and Non-dividing Cells", *Cell Proliferation* 28, 137-144.
- Billups, K. L., Palladino, M. A., Hinton, B. T., Desjardins, C., and Sherley, J. L. (1995) "Expression of E-selectin mRNA During Ischemia/Reperfusion Injury", *J. Lab. Clin. Med.* 125, 626-633.
- Billups, K. L., Sherley, J. L., Pallidino, M. A., Tindall, J. W. M., and Roberts, K. P. (1995) "Evidence for E-selectin Complement Regulatory Domain mRNA Splice Variants in the Rat", *J. Lab. Clin. Med.* 126, 580-587.
- Liu, Y., Bohn, S. A., and Sherley, J. L. (1998) "Inosine-5'-Monophosphate Dehydrogenase is a Rate-Determining Factor for p53-Dependent Growth Regulation," *Molecular Biology of the Cell* 9,15-28.
- Liu, Y., Riley, L. B., Bohn, S. A., Boice, J. A., Stadler, P. B., and Sherley, J. L. (1998) "Comparison of Bax, Waf1, and IMP Dehydrogenase Regulation in Response to Wild-type p53 Expression Under Normal Growth Conditions," *J. Cellular Physiology* 177, 364-376.

- Rambhatla, L., Bohn, S. A., Stadler, P. B., Boyd, J. T., Coss, R. A., and Sherley, J. L. (2001) "Cellular Senescence: Ex vivo p53-Dependent Asymmetric Cell Kinetics," *J. Biomed. Biotech.* 1, 27-36.
- Hong, K., Sherley, J., and Lauffenburger, D. A. (2001) "Methylation Of Episomal Plasmids As A Barrier To Transient Gene Expression Via A Synthetic Delivery Vector," *Biomol. Eng.* 18, 185-192.
- Merok, J. R., Lansita, J. A., Tunstead, J. R., and Sherley, J. L. (2002) "Co-segregation of Chromosomes Containing Immortal DNA Strands in Cells That Cycle With Asymmetric Stem Cell Kinetics," *Cancer Research*, 62, 6791-6795.
- Lee, H.-S., Crane, G. G., Merok, J. R., Tunstead, J. R., Hatch, N. L., Panchalingam, K., Powers, M. J., Griffith, L. G., and Sherley, J. L. (2003) "Clonal Expansion of Adult Rat Hepatic Stem Cell Lines by Suppression of Asymmetric Cell Kinetics (SACK)", *Biotech. & Bioeng.* 83, 760-771.
- Lansita, J. A., Merok, J. R., and Sherley, J. L. (2003) "Physicochemical Demonstration of Immortal DNA Strand Segregation," in "Mechanisms of Toxicity, Carcinogenesis, Cancer Prevention and Cancer Therapy: Abstracts of the Seventeenth Aspen Cancer Conference," *Tox. Path.* 31, 163-164.
- Merok, J. R., Tunstead, J. R., Lansita, J. A., and Sherley, J. L. (2003) "Demonstration of an Immortal DNA Strand Mechanism in Cells That Cycle with Asymmetric Stem Cell Kinetics-Implications for Mechanisms of Human Cancer and Aging," in "Mechanisms of Toxicity, Carcinogenesis, Cancer Prevention and Cancer Therapy: Abstracts of the Seventeenth Aspen Cancer Conference," *Tox. Path.* 31, 165-166.
- Tannenbaum, E., Sherley, J. L., and Shakhnovich, E. I. (2004) "Imperfect DNA Lesion Repair in the Semiconservative Quasispecies Model: Derivation of the Hamming Class Equations for "Master-Genome"-Based Fitness Landscapes," *Physical Rev. E*, 70, 061915-1 - 061915-15.
- Rambhatla, L., Ram-Mohan, S., Cheng, J. J., Sherley, J. L. (2005) "Immortal DNA Strand Co-Segregation Requires p53/IMPDH-Dependent Asymmetric Self-Renewal Associated with Adult Stem Cells," *Cancer Research* 65, 3155-3161.
- Tannenbaum, E., Sherley, J. L., and Shakhnovich, E. I. (2005) "Evolutionary Dynamics of Adult Stem Cells: Comparison of Random and Immortal-Strand Segregation Mechanisms," *Physical Review E*, 71, 041914-1-101914-9.
- Lee, H.-S., Sherley, J. L., Chen, J. J. W., Chiu, C.-C., Chiou, L.-L., Liang, J.-D., Yang, P.-C., Huang, G.-T., and Sheu, J.-C. (2005) EMP-1 is a Junctional Protein in a Liver Stem Cell Line and in the Liver," *Biochem. Biophys. Res. Commun.*, 334, 996-1003 (cover art).
- Tannenbaum, E., Sherley, J. L., and Shakhnovich, E. I. (2006) "Semiconservative Quasispecies Equations for Polysomic Genomes I: The Haploid Case," *J. Theor. Biol.* 241, 791-805.

Taghizadeh, R. R. and Sherley, J. L. (2008) "CFP and YFP, but Not GFP, Provide Stable Fluorescent Marking of Rat Hepatic Adult Stem Cells," *J. Biomed. Biotech*, Article ID 453590, 9 pages, doi:10.1155/2008/453590.

Taghizadeh, R. R., Noh, M., Huh, Y. H., Ciusani, E., Sigalotti, L., Covre, A., Maio, M., Arosio, B., Nicotra, M. R., Natali, P., Sherley, J. L., and La Porta, C. A. M. (2010) "CXCR6, a Newly Defined Biomarker of Tissue-Specific Stem Cell Asymmetric Self-Renewal, Identifies More Aggressive Human Melanoma Cancer Stem Cells," *PLoS ONE* 5(12): e15183. doi:10.1371/journal.pone.0015183.

Noh, M., Smith, J. L., Huh, Y. H., and Sherley, J. L. (2011) "A Resource for Discovering Specific and Universal Biomarkers for Distributed Stem Cells," *PLoS ONE* 6(7): e22077. doi:10.1371/journal.pone.0022077.

Huh, Y. H. and Sherley, J. L. (2011) "Molecular Cloaking of H2A.Z on Mortal DNA Chromosomes During Non-Random Segregation," *Stem Cells* 29, 1620-1627. doi: 10.1002/stem.707.  
*Featured as a "Spotlight on Current Issue" article.*

Huh, Y. H., King, J., Cohen, J. and Sherley, J. L. (2011) "SACK-Expanded Hair Follicle Stem Cells Display Asymmetric Nuclear Lgr5 Expression with Non-Random Sister Chromatid Segregation," *Sci. Rep.* 1, 175; DOI: 10.1038/srep00176.

Paré, J.-F., and Sherley, J. L. (2011) "Culture Environment-Induced Pluripotency of SACK-Expanded Tissue Stem Cells," *J. Biomed. and Biotechnol.* vol. 2011, Article ID 312457, 12 pp., 2011. doi:10.1155/2011/312457.

Huh, Y. H., Cohen, J., and Sherley, J. L. (2013) Higher 5-hydroxymethylcytosine Identifies Immortal DNA Strand Chromosomes in Asymmetrically Self-renewing Distributed Stem Cells. *Proc. Nat. Acad. Sci. USA* 110, 16862-16867. doi: 10.1073/pnas.1310323110.

Paré, J.-F., and Sherley, J. L. (2013) "Ex vivo Expansion of Human Pancreatic Distributed Stem Cells by Suppression of Asymmetric Cell Kinetics (SACK)," *J. Stem Cell Res. & Therapy* 3: 149. doi:10.4172/2157-7633.1000149.

Huh, Y. H., and Sherley, J. L. (2014) "Decreased H3K27 and H3K4 Trimethylation on Mortal Chromosomes in Distributed Stem Cells," *Cell Death & Disease*, 5, e1554; doi:10.1038/cddis.2014.522.

Huh, Y. H., Noh, M., Burden, F., Chen, J. C., Winkler, D. A., and Sherley, J. L. (2013) "Use of Sparse Feature Bioinformatics to Identify a Novel Pattern-Specific Biomarker for Counting Asymmetrically Self-Renewing Distributed Stem Cells," *Stem Cell Res.*, in press.

#### Perspectives and Hypotheses (Invited)

Sherley, J. L. (1996) "The p53 Tumor Suppressor Gene as Regulator of Somatic Stem Cell Renewal Division", *Cope* 12, 9-10.

Merok, J. R. and Sherley, J. L. (2001) "Breaching the Kinetic Barrier to In Vitro Somatic Stem Cell Propagation," *J. Biomed. Biotech.* 1, 24-26.

- Sherley, J. L. (2002) "Stem Cell Differentiation: What Does It Mean?" *Proc. Second Joint EMBS-BMES Conf. Houston, TX, October 2002.* 1, 741-742.
- Sherley, J. L. (2002) "Asymmetric Cell Kinetics Genes: The Key to Expansion of Adult Stem Cells in Culture", *Stem Cells* 20, 561-572.
- Taghizadeh, R. R. and Sherley, J. L. (2005) "Advanced Hematopoietic Stem Cell Therapy- Why Aren't We There Yet?" *Cambrex Resource Notes* 3, 4-5.
- Sherley, J. L. (2006) "Romancing Biology: Cell and Tissue Engineering in the New Era of Biological Engineering," *Curr. Opin. Biotechnol.* 17, 499-500.
- Sherley, J. L. (2008) "A New Mechanism for Aging: Chemical 'Age Spots' in Immortal DNA Strands in Distributed Stem Cells," *Breast Disease* 29, 37-46.
- Sherley, J. L. (2011) "Mesomechanics Challenges in Mammalian Tissue Cell Kinetics Research at Micro- and Nano- Length Scales," *Int. J. Terraspace Sci. and Eng.* 4, 15-17.
- Sherley, J. L. (2012) "Addressing Science Literacy in the Third Millennium," *Proc. 14<sup>th</sup> Int. Conf. On Mesomechanics* (eds. G.C. Sih, T. Fekete, F. Berto), Sept. 25-28, pp. 21-28.
- Sherley, J. L. (2013) "Advancing Renewable Normal Human Cell Assays for Drug Discovery," *Drug Devel. Res.*, 74, 127-137.
- Sherley, J. L. (2012/3) "Presumptions of Scientific Knowledge In the Evolution of Ethical Policies for Nascent Individuals," *Ethics in Biol. Engineer. Med. - An Internat. J.* 3, 195-208.
- Sherley, J. L. (2013) "New Cancer Diagnostics and Therapeutics From A 9<sup>th</sup> "Hallmark Of Cancer": Symmetric Self-Renewal By Mutated Distributed Stem Cells," *Expert Rev. Mol. Diagn.*, 13, 797-810 (2013).
- Sherley, J. L. (2014) "Accelerating Progress in Regenerative Medicine by Advancing Distributed Stem Cell-Based Normal Human Cell Biomanufacturing," *Pharm. Anal. Acta* 5: 286. doi: 10.4172/2153-2435.1000286
- Sherley, J. L. (2014) "Past insights for future progress in Bio-Mesomechanics, a new integrative research discipline," *Int. J. Terraspace Sci. and Eng. Special Issue on Bio-Mesomechanics: Perspectives and Retrospectives* 6, 51-57.
- Critical Commentary
- Sherley, J. L. (1999) "Overlooked Control," correspondence to *Science* 285, 1676-1677.
- Sherley, J. L. (2002) "Objections to the Same-gene Metastasis Model", correspondence to *Nature* 419, 560.
- Sherley, J. L. (2004) "Human Embryonic Stem Cell Research: No Way Around a Scientific Bottleneck," *J. Biomed. Biotech.* 2, 71-72.
- Sherley, J. L. (2007) "Commentary: Facing Up To The Feasibility of ANT-OAR," *Stem Cell Rev.* 3, 66-67.

Sherley, J. L. (2008) "The Importance of Valid Disclosures in the Human Embryonic Stem Cell Research Debate," *Cell Prolif.* 41 (Suppl. 1) 57-64.

Sherley, J. L. (2008) "Correspondence: All Good Cells Come From Cells," *Nat. Cell Biol.* 10, 248.

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#### Book Chapters

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## Teaching

### Boston Biomedical Research Institute

2012-2013	Guest Lecturer in "Science and the Human Experience" Tufts University, Medford, MA "Bioethical Issues in Human Embryonic Stem Cell Research"
2011	Invited Professorship University of Milan, Italy, January 17-22 "Stem Cell Biology and Bioengineering" 9-lecture series
2009-2012	Summer Undergraduate Research Opportunity Core (UROC) Program "How to give a 10-minute scientific talk"
2010-2012	Summer Undergraduate Research Opportunity Core (UROC) Program "How to read a scientific paper"
2010-2012	Summer Undergraduate Research Opportunity Core (UROC) Program "Introduction to Statistics for Research"

### Massachusetts Institute of Technology

2006	BE.102- "Macroepidemiology" – Guest Lecturer
2005-2006	21A.216J/SP.622J- "Dilemmas in Bio-Medical Ethics"-Guest Lecturer
2005	BE.320- "Biomolecular Kinetics and Cell Dynamics"
2004-2006	STS.011- "American Science: Ethical Conflicts and Political Choices"- Guest Lecturer
2004	HST.979/15.979- "Dynamics of Biomedical Technologies"- Guest Lect.
2002	BE.215- "Analytical Toxicology and Epidemiology" BEH.203- "Concepts and Principles in Toxicology – Biostatistics"
2000-2003	BE.A01- Freshman Advising Seminar-"How to Read Science"

1999-2005	BE.104-"Chemicals in the Environment: Epidemiology Toxicology and Public Health"
	BE.217- "Adult Stem Cell Biological Engineering"
1999	BE.420- "Biomolecular Kinetics and Cell Dynamics"
1999-2003	Freshman Academic Advisor (21 advisees)
1999-2006	Pre-medical Career Advisor (14 advisees)

### **Formal Career Mentoring**

2012-present	The Harvard Society of Black Scientists and Engineers – Harvard University
2000-present	Biomedical Science Careers Program – Harvard Medical School

### **Research Mentoring**

15 post-doctoral fellows; 4 doctoral degree graduates; 5 Masters degree graduates; 50 undergraduate research interns; 8 high school research interns; 1 elementary school research intern.