

Brian J. Cummings, Ph.D.

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Education	1987 B.S. University of Illinois, Champaign-Urbana, IL (Psychology) 1987 B.A. University of Illinois, Champaign-Urbana, IL (Philosophy) 1993 Ph.D. University of California, Irvine, CA (Psychobiology)	
Professional Employment	1993-1994 Post-Doctoral Fellow, IRU in Brain Aging, UCI 1993-1996 Tissue Repository Director, Institute for Brain Aging & Dementia, UCI 1995-1996 Assistant Research Professional, Psychobiology, UCI 1996-1997 Instructor in Neuroscience, Harvard Medical School, MA 1997 (fall) Visiting Faculty in Writing, Brandeis University, MA 1997-2003 Assistant Researcher, Institute for Brain Aging & Dementia, UCI 2001-2002 Director of Science, Sage Hill School, Newport Coast, CA 2003-2005 Assistant Researcher, Physical Medicine & Rehabilitation, UCI 2006-2009 Assistant Professor (in-residence), Physical Medicine & Rehabilitation, UCI 2009-present Associate Professor, Physical Medicine & Rehabilitation, UCI 2013-present Vice-Chair for Research, Physical Medicine & Rehabilitation, UCI 2014-2015 Associate Professor, Vice-Chair for Research Neurological Surgery, UCI 2015-present Professor, Vice-Chair for Research Neurological Surgery, UCI	
Honors Awards & Committees	Phi Beta Kappa, 1987 Lois Shepherd Green Award in Philosophy, 1987 Earle C. Anthony Fellowship for graduate research, 1987-88 National Research Service Award, 7/89 - 6/90 Alzheimer's Association of Orange County Scientific Advisory Board, 1993-96 AAAS Mass Media and Science Fellows Finalist, 1995 Alzheimer's Research Forum Scientific Advisory Board, 1996-99 Faculty Welfare Committee (2006) Faculty Housing Representative Board (HRB) member and Chair (2002-2006) COHS Representative Assembly (PM&R) 2006 to 2008 Institutional Animal Care and Use Committee (IACUC) 2006-2009 UK-US Stem Cell Collaboration Development Award, Co-recipient, July 2009 SOM Medical School Admissions Faculty Interviewer, 2002-2004, 2010-2012 Associate Director of Infrastructure: Sue & Bill Gross Stem Cell Center, 2011- 2014 Director - Olympus Live Cell Imaging Suite (FV10i & VivaView), 2010-present SOM PBF - Planning, Budget, and Facilities Committee (2012-present) ARAC - Animal Research Advisory Committee (Sept 2013-present) CIRM Leadership Award UCI FTE search committee (Sept 2013-Jan 2014) Chancellor's Award for Excellence in Undergraduate Mentoring (SOM) - 2014 Elected representative (College of Health Sciences), Irvine Divisional Senate 2014-15 Elective representative, College of Health Sciences Executive Committee, 2015- UCI Chief of Medicine Health Referee Committee, 2016-	

Professional Teaching Experience Psychobiology 105 “Introduction to Psychobiology”, Lecture, 1987-92
 Psychobiology 105 “Physiological Psychobiology Laboratory”, 1987-92
 Psychobiology 155 “Investigation of CNS Disorders”, Seminar, 1992-93
 “Sell me a Cell”, Freshmen seminar, 2010
 Biology 11 “Introduction to Neurobiology for non-majors” PBL Seminar/Discussion
 Science Writing for Biology Undergraduates, Brandeis University, 1997
 Pharmacology Lab Techniques (Physiology of the Rabbit Ileum), Instructor of T.A.s
 Small Animal Stereotaxic Surgery, Instructor of T.A.s
 Advance Placement Biology and general high school Biology, 2001-2002
 Psychobiology 81 “Brain and Behavior”, non-majors lecture
 Psychobiology 160 “Molecular Biology of the Synapse” Seminar
 National Public Radio - Sounds Like Science On-line Mentor, 2000
 Life Sciences volunteer at Vista Pointe Middle School, 2000-2001
 Nursing Science 100, Human Anatomy. Lecture, 2007-2011
 Neurobiology & Behavior 208A “Systems Neuroscience”, Graduate seminar, 2010-11
 Stem Cells Ethics & Policy (MMG230), Graduate seminar, 2011-present
 Neural Stem Cells & Translational Neuroscience, (ANAT230), 2014-present

Clinical Trials & Patents Phase I Study of the Safety and Preliminary Efficacy of Intracerebral Transplantation of HuCNS-SC® Cells for Connatal Pelizaeus-Merzbacher Disease (NCT01005004)
 Phase I/II Study of the Safety & Preliminary Efficacy of Intramedullary Spinal Cord Transplantation of HuCNS-SC in Subjects With Thoracic SCI (NCT01321333)
 Phase II Study of Human Central Nervous System (CNS) Stem Cell Transplantation in Cervical Spinal Cord Injury (NCT02163876)
 Method and apparatus for generating special-purpose image analysis algorithms (US 2002/0186882)
 Compositions for modulating cell migration, movement, survival, proliferation, localization and differentiation for the repair of CNS and spinal cell injuries and the treatment of nerve and CNS diseases (UC 2010-459-1)

Funding

"Animal model of human aging and dementia (canine)" (Co-PI) 5RO1AG12694-05
 9/95–8/00 \$530,572 Direct Costs
"Program Project: Tissue and Peptide Resources Core" (Co-PI) 3P01AG00538-23S1A19001
 7/95 – 6/00 \$ 378,265 Direct Costs
"Non transgenic animal models of Alzheimer's disease" RG2-96-096 (PI) Alz. Association
 6/97-5/00 \$145,010 Direct Costs
"Alzheimer's Disease Research Center – Neuropathology Core" (PI) NIA
 04/00 – 03/05 \$949,225 Direct Costs
"Complement Inhibition as a Strategy for Treating SCI" (PI) Paralysis Project of America
 03/03 - 12/04 \$49,700 Direct Costs
"Testing of normal human CNS-SC in a spinal cord injury model" (Co-Investigator) NIH
 07/03 - 12/04 SBIR 485700-78493 \$74,549 Subcontract

“Targeted immune response to A β using molecular adjuvants” 09/04 - 08/08	(Collaborator) NIA \$2,057,485 Direct Costs
“Mechanisms of SCI recovery after hCNS Stem Cell grafts” 08/04 - 07/09	(Co-Investigator) NIH \$925,000 Direct Costs
“Controlled Release Scaffolds for Nerve Regeneration” 01/07 - 01/12	(Co-Investigator) NIH \$566,250 Subcontract
“The Immunological Niche: Effect of immunosuppressant drugs on stem cell proliferation, gene expression, and differentiation in a model of spinal cord injury” 01/08 – 12/09	(PI) CIRM \$400,000 Direct
“Role of the microenvironment in human iPS and fetal-derived NSC fate and tumorigenesis” 09/10-08/13	(co-PI) CIRM \$900,000 Direct
“Controlled Release Scaffolds for Nerve Regeneration” 2010 - 2015 2nd renewal	(Co-Investigator) NIH \$838,849 Subcontract
“Efficacy of Recombinant Human C11NH in the Therapeutic Treatment of TBI” 01/11-12/13	(co-PI) DoD \$995,750 Direct
“Neural restricted, FAC-sorted, human neural stem cells to treat traumatic brain injury” 05/11 - 4/14	(PI) CIRM \$1,149,437 Direct
“CIRM: Bridges to Stem Cell Research Training - California State University Fullerton” 08/10 - 06/14 UCI subcontract	(PI) UCI \$72,100 Direct
“CIRM: Bridges to Stem Cell Research Training - California State University Long Beach” 05/11 - 06/14 UCI subcontract	(PI) UCI \$66,000 Direct
“Video surveillance & recording system for equipment monitoring and security of Gross Hall” 07/12 - 06/13 Office of Research & Stem Cell Research Center	(PI) UCI \$52,000 Direct
DT2 - “Neural stem cell transplantation for chronic cervical spinal cord injury” 01/13 - 12/16 (Awarded; declined by StemCells, Inc on 3/19/13)	(co-PI) CIRM \$5,997,591 Direct
SRA - “Human neural stem cell transplantation for chronic cervical spinal cord injury” 02/13 - 12/14	(co-PI) StemCells Inc \$2,138,252 Direct
UO1 - “Human neural stem cell therapy for the treatment of cervical spinal cord” 08/13 - 07/16	(co-PI) NIH \$4,146,069 Direct
CIRM - “Restoring vision by sheet transplants of retinal progenitors and retinal pigment epithelium (RPE) derived from human embryonic stem cells (hESCs)” 03/14 - 02-17	(Co-I) CIRM \$3,336,750 Direct
RO1 “Controlled Release Scaffolds for Nerve Regeneration” 2015 - 2019 (3rd renewal)	(Co-Investigator) NIH \$838,849 Subcontract
“Modeling pediatric TBI with stem cell-derived brain organoids & laser cavitation bubbles” 07/15 - 6/17	(PI) SCRC \$33,000 Direct
“Microglia Contribute to Ongoing Pain Caused by TBI” 10/15 - 9/18	(co-PI) DoD \$1,053,066 Direct
Total Direct Costs: \$27,834,410	

Grant NIH Study Section, Neurological Sciences I, June 1996, Ad hoc reviewer
Reviewer State of California Department of Health and Human Services, 1996-1999
NIH Study Section, Behavioral and Biobehavioral Processes, June, 2000, Ad hoc reviewer
Alzheimer's Association, Chicago IL, 1997-2005
International Human Frontier Science Program, France, 1998-present
PPP Healthcare Medical Trust, London 1999-2001
NYSTEM –State of New York Stem Cell Board, 2008, 2012
Research Grants Council, Hong Kong, 2009-2013
Wings for Life Foundation, 2009, 2001, 2014
Canada Foundation for Innovation/Fondation Canadienne pour l'Innovation, 2010-present
NIH Study Section, Emerging Tech & Training in Neurosci, Nov 2011, Ad hoc reviewer
New Jersey Commission on Spinal Cord Injury, 2011-present
NINDS Study Section, NST-2, Jan 2015, Oct 2015, Ad hoc reviewer
Ontario Institute for Regenerative Medicine, 2015-

Journal Proceedings of the National Academy of Sciences (USA)

Reviewer Journal of the American Medical Association (JAMA) Stem Cells
Journal of Neuropathology and Experimental Neurology NeuroReport
Journal of Stem Cells Brain Research
Neurobiology of Aging Neuroscience Letters
Behavioral and Neural Biology Neuroscience & Biobehavioral Review
Journal of Neuropathology Neurochemical Research
American Journal of Pathology Biochimica et Biophysica Acta
Frontiers in Neurology Cell Transplantation
Science Translational Medicine Public Library of Science One
Stem Cell Reports Cell Transplantation
Neurotherapeutics

Invited 1. University of California, Davis, Department of Anesthesiology, April 27, 1993

Lectures 2. University of California, San Diego, Program in Neuroscience, 1994
3. Montana State University, Department of Pharmacology, May, 1995
4. University of California, Irvine, School of Medicine, September, 1995
5. Harvard Medical School, Brigham & Women's Hospital, May, 1996
6. Kinki University School of Medicine, Osaka, Japan, July 18, 1996
7. Bowdoin College, Program in Neuroscience, November 7, 1996
8. Dartmouth College, Psychology Department, Hanover, November 8, 1996
9. CNLM NeuroLunch Seminar, UC Irvine, April 13, 1998
10. 6th International Conference on Alzheimer's disease, Amsterdam, July 19, 1998
11. Alzheimer's Association of Orange County, Facing the Challenge, November 1998

12. Orange County Department of Education, Vision 2020, July 28, 1999
13. University of California Med. School, "Movement Control", November 24, 1999
14. Alzheimer's Association of Orange County, "Keeping the Spirit", November 18, 1999
15. CSUF, "Teaching Neuroscience via Problem Based Learning", March 21, 2000
16. University of California Med. School, "The CNS Vascular System", April 19, 2000
17. Deutschland Forschergruppe (DFG) Cooperative Workshop, Jesteburg, Sept 23, 2000
18. Max Planck Group for Structural Molecular Biology, Hamburg, September 25, 2000
19. Alzheimer's Association of Orange County, Roundtable Discussion, November 17, 2000
20. Cancer Genetics Research Group, "Stem Cells to treat CNS Trauma", July 15, 2004
21. Atena Onlus Conference on Stem Cells, Rome, September 24, 2005
22. International Stem Cell Conference, San Francisco, February 7, 2006
23. Children's Hospital of Orange County Embryonic Stem Cell Course, March 12, 2006
24. ARCS Foundation (Orange County) Science and Technology Lecture, March 22, 2006
25. Winter Conference on Brain Research, Snowmass CO, Panel Expert, Feb 1, 2007
26. 1st Vertical Conference on Spinal Cord Injury, Rome, Italy, October 26th, 2007
27. University of Minnesota, Dept. Neuroscience and Stem Cell Center, Sept 23rd, 2008
28. UC Systemwide Technology Transfer Conference - UK, San Francisco, April 15, 2009
29. CIRM-Japan Science & Technology Agency workshop, San Francisco, June 8, 2009
30. Centre for Stem Cell Biology, University of Sheffield, United Kingdom, Oct 9, 2009
31. Centre for the Cellular Basis of Behaviour, King's College London, UK, Oct 12, 2009
32. Claremont High School, Claremont CA, March 8, 2010
33. Northwestern University, April 28, 2010
34. La Costa Canyon High School, La Costa Canyon, CA, May 26, 2010
35. UC Irvine Stem Cell Symposium Open Public Forum, Oct 8, 2010
36. CSU Fullerton Bridges to Stem Cell Research Symposium, Dec 3, 2010
37. SCRC CIRM Techniques Course, March 2, 2011
38. International Neural Transplantation & Repair, Clearwater FL May 8, 2011
39. Minority Science Program (MSP) Seminar Series, UCI May 19, 2011
40. Brain, Spinal Cord Mapping & Imaged Guided Therapy, San Fran, June 10, 2011
41. Frontiers of the Mind - TBI iMIND Symposia, Sept 21, 2011
42. University of Washington ISCRM Symposium, Seattle, January 12, 2012
43. Stem Cell Research Center Seminar series, January 20, 2012
44. UCI - Undergraduate genetics class, March 12, 2012
45. Allergan Multiple Sclerosis Symposium, April 23, 2012
46. Sue & Bill Gross Stem Cell Seminar Series, May 4, 2012
47. Jain International BioEthics Conference, Claremont CA, August 24-25, 2012
48. CIRM/Brazil/Argentina Stem Cell Workshop, Session Chair, Sao Paulo, Sept 30, 2012
49. 7th Brazilian Congress on Stem Cells & Cell Therapy, Keynote, Sao Paulo, Oct 5, 2012

50. Revolutionaries for Global Health Summit, San Francisco, Oct 24, 2012
51. Neurology Grand Rounds, Orange CA, Oct 26, 2012
52. Osher Lifelong Learning Seminar Series, Irvine CA, Dec 10, 2012
53. Keynote at the 3rd CIRM Bridges to Stem Cell Symposium at CSUF, March 22, 2013
54. Stem Cell Research Center Transplantation Techniques Course, April 17, 2013
55. Eugene and Ruth Roberts Summer Student Academy, City of Hope Aug 5, 2013
56. Sichuan University Deans & Administrators Program (Chengdu China), Aug 15, 2013
57. Universidad Europea de Madrid Medical Education Program, Aug 27, 2013
58. Laguna Beach Seniors at the SusiQ, Oct 12, 2013
59. PM&R TBI Didactics Lecture, Nov 5, 2013,
60. Winter Conference on Brain Research, Steamboat CO, Jan 26-30, 2014
61. Northwestern University Biotech Program, “Repairing Neurotrauma”, April 16, 2014
62. Universidad Europea de Madrid Medical Education Program, Aug 18, 2014
63. Keynote, University of Kansas Medical School SfN Chapter Day, Oct 14-15, 2014
64. Keynote, 4th Int. Conference on Disability & Rehabilitation, Riyadh, Oct 17-19, 2014
65. Society for Brain Mapping & Therapeutics, Los Angeles, CA, March 7, 2015
66. PM&R Didactics - Lecture - Jul 28, 2015
67. Universidad Europea de Madrid Medical Education Program, Aug 25, 2015
68. Rejuvenation and Stem Cells, UC Santa Cruz, Sept 28-29, 2015
69. Osher Lifelong Learning Seminar, TBI, Irvine CA, Feb 2, 2016
70. University of Rochester, May 20, 2016
71. Didactics - PM&R Resident Research Planning, Aug 2, 2016
72. Universidad Europea de Madrid Medical Education Program, Aug 23, 2016

Journal Articles (peer-reviewed)

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1rMz9ZjBfSk/bibliographay/47354656/public/?sort=date&direction=descending>

1. Gómez-Pinilla, F., **B.J. Cummings** and C.W. Cotman (1990). “Induction of basic fibroblast growth factor in Alzheimer's disease pathology.” *NeuroReport* **1**: 211-214. IF=1.9
2. **Cummings, B.J.**, J.H. Su, J.W. Geddes, W. Van Nostrand, S. Wagner, D. Cunningham and C.W. Cotman (1992). “Aggregation of the amyloid precursor protein (APP) within degenerating neurons and dystrophic neurites in Alzheimer's Disease.” *Neuroscience* **48**: 763-777. IF=3.4
3. Bridges, R.J., C.G. Hatalski, S.N. Shim, **B.J. Cummings**, V. Vijayan, A. Kundi and C.W. Cotman (1992). “Gliotoxic actions of excitatory amino acids.” *Neuropharmacology* **31**: 899-907. IF=4.4
4. Kammesheidt, A., F.M. Boyce, A.F. Spanoyannis, **B.J. Cummings**, M. Ortegón, C. Cotman, J.L. Vaught and R.L. Neve (1992). “Amyloid deposition and neuronal pathology in transgenic mice expressing the carboxyterminal fragment of the Alzheimer amyloid precursor in the brain.” *Proceedings of the National Academy of Science* **89**: 10857-10861. IF=10.6

5. **Cummings, B.J.**, G.J. Yee and C.W. Cotman (1992). "bFGF promotes entorhinal layer II cell survival after perforant path axotomy." *Brain Research* **591**: 271-276. IF=3.0
6. Pike, C.J., **B.J. Cummings** and C.W. Cotman (1992). "β-amyloid induces neuritic dystrophy in vitro: Similarities with Alzheimer pathology." *NeuroReport* **3**: 769-772. IF=1.9
7. Su, J.H., **B.J. Cummings** and C.W. Cotman (1992). "Localization of heparan sulfate glycosaminoglycan and proteoglycan core protein in aged brain and Alzheimer's disease." *Neuroscience* **51**: 801-814. IF=3.4
8. **Cummings, B.J.**, J.H. Su, C.W. Cotman, R. White and M. Russell (1993). "β-amyloid accumulation in aged canine brain: A model of plaque formation in Alzheimer's disease." *Neurobiology of Aging* **14**:547-560. IF=6.1
9. Russell, M., **B.J. Cummings**, B. Profitt, C. Wysocki, A. Gilbert and C.W. Cotman (1993). "Lifespan changes in the verbal categorization of odors." *Journal of Gerontology* **48**: 49-53. IF=4.6
10. Su, J.H., **B.J. Cummings**, and C.W. Cotman (1993). "Identification and distribution of axonal dystrophic neurites in Alzheimer's disease." *Brain Research* **625**:228-237. IF=3.0
11. **Cummings, B.J.**, J.H. Su and C.W. Cotman (1993). "Neuritic involvement within bFGF immunopositive plaques of Alzheimer's disease." *Experimental Neurology* **124**:315-325. IF=4.5
12. Anderson, A.J., **B.J. Cummings**, and C.W. Cotman (1994). "Jun and Fos immunoreactivity in Alzheimer's brain and induction by β-amyloid in cultured neurons." *Experimental Neurology* **125**: 286-295. IF=4.5
13. Su, J.H., **B.J. Cummings**, and C.W. Cotman (1994). "Subpopulations of dystrophic neurites in Alzheimer's disease exhibit distinct immunocytochemical and argentophilic characteristics." *Brain Research* **637**: 37-44 IF=3.0
14. Smyth, M, J.P. Kesslak, **B.J. Cummings**, and C.W. Cotman (1994). "Analysis of brain injury following intrahippocampal administration of β-amyloid in streptozotocin-treated rats." *Neurobiology of Aging* **15**:153-159. IF=6.1
15. Su, J.H., **B.J. Cummings**, and C.W. Cotman (1994). "Early phosphorylation of tau in Alzheimer's disease occurs at Ser-202 and is preferentially within neurites." *NeuroReport* **5**(7): 2358-2362. IF=1.9
16. Pike, C.J., **B.J. Cummings**, R. Monzavi and C.W. Cotman (1994). "β-Amyloid-induced changes in cultured astrocytes parallel reactive astrocytosis associated with senile plaques in Alzheimer's disease." *Neuroscience* **63**(2): 517-531. IF=3.4
17. Su, J.H., A.J. Anderson, **B.J. Cummings**, and C.W. Cotman (1994). "Immunocytochemical evidence for apoptosis in Alzheimer's disease." *NeuroReport* **5**(18): 2529-2533. IF=1.9
18. DeFigueiredo, R., **B.J. Cummings**, P. Mundkur and C.W. Cotman (1995). "Color image analysis in neuroanatomical research: Application to senile plaque subtype quantification in Alzheimer's disease." *Neurobiology of Aging* **16**(2), 211-223. IF=6.1
19. Pike, C.J, **B.J. Cummings**, and C.W. Cotman (1995). "Early association of reactive astrocytes with senile plaques in Alzheimer's disease." *Experimental Neurology* **132**(2), 172-179. IF=4.5

20. **Cummings, B.J.** and C.W. Cotman (1995). "Image analysis of β -amyloid "load" in Alzheimer's disease and relation to dementia severity." *The Lancet*, **346**, 1524-15-28. IF=36.4
21. Ruehl, W.W., D. Bruyette, A. DePaoli, C.W. Cotman, E. Head, N.W. Milgram, and **B.J Cummings** (1995). "Canine cognitive dysfunction as a model for human age related cognitive decline, dementia and Alzheimer's disease: Clinical presentation, cognitive testing, pathology and response to l-deprenyl therapy." *Progress in Brain Research*, **106**, 217-225. IF=3.7
22. Satou, T., **B.J. Cummings**, and C.W. Cotman (1995). "Immunoreactivity for Bcl-2 protein within neurons in the Alzheimer's disease brain increases with disease severity" *Brain Research*, **697**, 35-43. IF=3.0
23. **Cummings, B.J.***, A. Afagh*, D. Cribbs, C.W. Cotman and A.J. Tenner (1996). "Localization and cell association of C1q in Alzheimer's disease brain." *Experimental Neurology*, **138**, 22-32. IF=4.5
24. Head, E., R. Mehta, J. Hartley, W. Ruehl, **B.J. Cummings**, C.W. Cotman, C. Reid and N.W. Milgram (1995). "Spatial learning and memory in young and aged dogs." *Behavioral Neuroscience*, **109**, 851-858. IF=3.0
25. **Cummings, B.J.**, E. Head, W. Ruehl, N.W. Milgram and C.W. Cotman (1996). "The canine as an animal model of human aging and dementia." *Neurobiology of Aging*, **17**, 259-268. IF=6.1
26. Nielson, K.A., **B.J. Cummings**, and C.W. Cotman (1996). "Constructional apraxia in Alzheimer's disease correlates with neuritic neuropathology in occipital cortex." *Brain Research*, **741**, 284-293. PMID: 9001734 IF=3.0
27. **Cummings, B.J.**, E. Head, A. Afagh, N.W. Milgram and C.W. Cotman (1996). " β -amyloid accumulation correlates with cognitive impairment in the aged canine." *Neurobiology of Learning and Memory*, **66** (1), 11-23. IF=3.9
28. Cotman, C.W., A.J. Tenner, and **B.J. Cummings** (1996). " β -amyloid converts an acute phase injury response to chronic injury responses." *Neurobiology of Aging*, **17**, 723-731. IF=6.1
29. **Cummings, B.J.**, T. Satou, E. Head, N.W. Milgram, G.M. Cole, M.J. Savage, M.B. Podlisny, D.J. Selkoe, R. Siman, B.D. Greenberg, and C.W. Cotman (1996). "Diffuse plaques contain C-terminal A β ₄₂ and not A β ₄₀: Evidence from cats and dogs." *Neurobiology of Aging*, **17**, 653-659. IF=6.1
30. Su, J. H., **B.J. Cummings**, C.W. Cotman (1996). Plaque biogenesis in brain aging and Alzheimers disease. I. Progressive changes in phosphorylation states of paired helical filaments and neurofilaments. *Brain Research*, **739**:79-87. IF=3.0
31. **Cummings, B.J.**, C.J. Pike, R. Shankle, and C.W. Cotman (1996). " β -amyloid deposition and other measures of neuropathology predict cognitive status in Alzheimer's disease." *Neurobiology of Aging*, **17**, 921-933. IF=6.1
32. Satou, T., **B.J. Cummings**, E Head, K.A. Nielson, F. Hahn, N.W. Milgram, P. Velazquez, D.H. Cribbs, A.J. Tenner, and C.W. Cotman (1997). "Progression of β -amyloid deposition within the frontal cortex of the dog." *Brain Research*, **774**: 35-43. IF=2.9
33. Head, E., H. Callahan, **B.J. Cummings**, C.W. Cotman, W.W. Ruehl, B.A. Muggenburg, and N.W. Milgram (1997). "Open field activity and human interaction as a function of age and breed in dogs." *Physiology and Behavior*, **62**(5), 963-971. IF=3.3

34. **Cummings, B.J.** (1997) Plaques and tangles: Searching for primary events in a forest of data. *Neurobiology of Aging* **18**, 358-362. IF=6.1
35. Su, J.H, **B.J. Cummings**, and C.W. Cotman (1998). "Plaque biogenesis in brain aging and Alzheimer's disease II. Progressive transformation and developmental sequence of dystrophic neurites." *Acta Neuropathologica*. **96**: 463-471. IF=9.7
36. Anderson, A.J., W.W Ruehl, L.K Fleischmann, K. Stenstrom, T.L. Entriken, and **B.J. Cummings** (2000). "DNA damage and apoptosis in the aged canine brain: Relationship to A β deposition in the absence of neuritic pathology. *Prog. Neuro-Psychopharmacol & Biol Psychiat* **24**: 787-799. IF=3.6
37. **Cummings, B.J.**, A.J. Mason, R.C. Kim, P.C.Y. Sheu, and A.J. Anderson (2002). "Optimization of techniques for the detection and quantification of Alzheimer's-related neuropathology with digital imaging." *Neurobiology of Aging*, **23**: 161-170. IF=6.1
38. Zhao, M., D.H. Cribbs, A.J. Anderson, **B.J. Cummings**, J.H. Su, A.J. Wasserman and C.W. Cotman (2003). "The induction of the TNF-alpha death domain signaling pathway in Alzheimer's disease brain." *Neurochemical Research*, **28**(2): 307-318. IF=2.4
39. Chubb, C., Y. Inagaki, C.W. Cotman, **B.J. Cummings**, and P.C.Y. Sheu (2004). Semantic Biological Image Management and Analysis. *International Journal on Artificial Intelligence Tools*, **13**(4) 881-896. IF=0.45
40. **Cummings, B.J.**, N. Uchida, S.J. Tamaki, D.L. Salazar, M. Hooshmand, R. Summers, F.H. Gage, and A.J. Anderson (2005) "Human Neural Stem Cells Differentiate and Promote Locomotor Recovery in Spinal Cord-Injured Mice." *Proceedings of the National Academy of Sciences*, Sep 27;**102**(39): 14069-14074. PMID: 16172374 IF=10.6
41. Luchetti, S., F di Michele, E. Romeo, L. Brusa, G Bernardi, **BJ Cummings**, P. Longone (2006). "Comparative non-radioactive RT-PCR assay: An approach to study the neurosteroids biosynthetic pathway in humans." *J Neurosci Methods*. 153(2):290-298. PMID: 16378642 IF=2.5
42. Chubb, C., Y. Inagaki, P.C.Y. Sheu, **B.J. Cummings**, A.J. Wasserman, E. Head, and C.W. Cotman (2006). "BioVision: An application for the automated image analysis of histological sections." *Neurobiology of Aging*, **27**(10): 1462-1476. PMID: 16271803 IF=6.1
43. **Cummings, B.J.**, N. Uchida, S.J. Tamaki, and A.J. Anderson (2006). Human neural stem cell differentiation following transplantation into spinal cord injured mice: Association with recovery of locomotor function. *Neurological Research*, 28(5) 474-481. PMID: 16808875 IF=1.3
44. **Cummings, B.J.**, C. Engesser-Cesar, G. Cadena, and A.J. Anderson (2007). "Adaptation of a ladder beam walking task to assess locomotor recovery in mice following spinal cord injury." *Behavioral Brain Research*, Feb 27;**177**, 232-241. PMID: 17197044 IF=3.7
45. De Laporte, L, Y. Yang, M.L. Zelivyanskaya, **B.J. Cummings**, A.J. Anderson, L.D. Shea (2008) "Plasmid releasing multiple channel bridges for transgene expression after spinal cord injury" *Molecular Therapy* Feb;**17**(2):318-326. PMID: 19050701 IF=6.5
46. Hooshmand, M. J., C. J. Sontag, N. Uchida, S. J. Tamaki, A. J. Anderson*, and **B.J. Cummings*** (2009). "Analysis of host-mediated repair mechanisms after human CNS-stem cell transplantation for spinal cord injury: correlation of engraftment with recovery." *Public Library of Science (PLoS) ONE*, Jun 11;**4**(6):e5871. PMID: 19517014 IF=4.2

47. Yang, Y, L. De Laporte, M.L. Zelivyanskaya, K.J. Whittlesey, A.J. Anderson, **B.J. Cummings**, and L.D. Shea (2009). "Multiple Channel Bridges for Spinal Cord Injury: Cellular Characterization of Host Response." *Tissue Engineering: Part A*, Nov;**15**(11) 3283-3295. PMID: 19382871 IF=4.6
48. Nasonkin, I., V. Mahairaki, L.Xu, G.Hatfield, **B.J.Cummings**, C. Eberhart, D.Ryugo, D. Maric, E.Bar and V.E. Koliatsos (2009). "Long-Term, Stable Differentiation Of Human Embryonic Stem Cell-Derived Neural Precursors Grafted Into The Adult Mammalian Neostriatum." *Stem Cells Oct*; **27**(10):2414-2426. PMID: 19609935 IF=8.4
49. Luchetti S, Beck KD, Galvan MD, Silva R, **Cummings BJ**, Anderson AJ. (2010). "Comparison of immunopathology and locomotor recovery in C57BL/6, BUB/BnJ and NOD-scid mice after contusion spinal cord injury" *J Neurotrauma* Feb 27(2): 411-421. PMID: 19831737. IF=4.8
50. Salazar, D. L., N. Uchida, F. Hammers, A.J. Anderson*, and **B.J. Cummings*** (2010). "Human neural stem cells differentiate and promote locomotor recovery in an early chronic spinal cord injury NOD-scid mouse model" *Public Library of Science ONE*. Aug 18;5 (8) 1-15 e12272. doi:10.1371/journal.pone.0012272 PMID: 20806064 IF=4.2
51. Anderson, A.J., Haus, D.L.*, Hooshmand, M.J.*, Perez, H.*, Sontag, C.J.*, and **B.J. Cummings** (2011). Achieving stable human stem cell engraftment and survival in the CNS: Is the future of regenerative medicine immunodeficient? *Regenerative Medicine*, 6(3), 367-406. doi:10.2217 PMID: 21548741 IF=3.8
52. Piltti, KM, Haus, DL, Do, E, Perez, H, Anderson, A. J. and **BJ Cummings** (2011). "Computer-aided 2D and 3D quantification of human stem cell fate from *in vitro* samples using Volocity high performance image analysis software" *Stem Cell Research*, doi:10.1016/j.scr.2011.05.005 IF=4.7
53. Sontag, E.M., Lotzc, G.P., Yang, G., Sontage, C.J., **Cummings, B.J.**, Glabe, C.G., Muchowskic, P.J. and L.M. Thompson (2012). "Detection of Mutant Huntingtin Aggregation Conformers and Modulation of SDS-Soluble Fibrillar Oligomers by Small Molecules" *Journal of Huntington Disease* 1, 127-140. DOI 10.3233/JHD-2012-129004 IF=*na*
54. Tuinstra, HM, Aviles, MO, Shin, S, Holland, SJ, Zelivyanskaya, ML, Fast, AG, Ko, SY, Margul, DJ, Bartels, AK, Boehler, RM, **Cummings, BJ**, Anderson, AJ and LD Shea (2012). "Multifunctional, multichannel bridges that deliver neurotrophin encoding lentivirus for regeneration following spinal cord injury". *Biomaterials*, Feb;**33**(5):1618-26. PMID: 22130565 IF=8.5
55. Uchida, N, K. Chen, K.D. Hansen, J. Dean, J.R. Buser, A. Riddle, D.J. Beardsley, Y. Wan, X. Gong, T. Nguyen, **B.J. Cummings**, A.J. Anderson, M. Dohse, S.J. Tamaki, S. Matsumoto, L.S. Sherman, C. Kroenke, and S.A. Back (2012). "Human neural stem cells preferentially generate functional myelination in asymptomatic neonates and juvenile mice with severe dysmyelination." *Science Translational Medicine*, 4, 155ra136; DOI: 10.1126/scitranslmed.3004371 PMID: 23052293 IF=10.5
56. Thomas, A, Kubilius, L, Holland, S, Seidlits, S, Boehler, R, Anderson, AJ, **Cummings, BJ**, and LD Shea (2013). "Channel density and porosity of degradable bridging scaffolds on axon growth after spinal injury." *Biomaterials* Mar; 34(9):2213-20. doi: 10.1016/j.biomaterials.2012.12.002. Epub 2013 Jan 2 PMID: 23290832 IF=8.5
57. Piltti, KM*, Salazar D.L.*, Uchida N., **Cummings B.J.**, and Anderson A.J (2013a). "Safety of epicenter versus intact parenchyma as a transplantation site for human neural stem cells for spinal

- cord injury therapy". (*Feb 14, 2013*) *Stem Cells Translational Medicine*, Mar;2(3):204-216. PMID: 23413374. doi: 10.5966/sctm.2012-0110 IF=3.6
58. Gold, E., Su, D., Lopez-Velázquez, L., Haus, D.L., Perez, H., Lacuesta, G., Anderson, A.J.*, & **B.J. Cummings*** (2013). "Functional Assessment of Long-Term Deficits in Rodent Models of Traumatic Brain Injury" (*May 17, 2013*) *Regenerative Medicine*, 8(4):483-516 doi:10.2217/rme.13.41 IF=3.8
59. Sontag, C, Nguyen, H.X., Kamei, N, Uchida, N., Anderson, A.J.* and **Cummings, B.J.*** (2013). "Immunosuppressants affect human neural stem cells *in vitro*, but not in an *in vivo* model of spinal cord injury" (*May 28, 2013*) *Stem Cells Translational Medicine*, Oct;2(10):731-44. doi: 10.5966/sctm.2012-0175. Epub 2013 Aug 27. PMID: 23981724 IF=3.6
60. Piltti, KM*, Salazar D.L.*, Uchida N., **Cummings B.J.**, and Anderson A.J. (2013b) "Safety of human neural stem cell transplantation in chronic spinal cord injury". *Stem Cells Translational Medicine*, 2:961-974. doi: 10.5966/sctm.2013-0064. Epub Nov 4, 2013 PMID: 24191264. IF=3.6
61. Tuinstra, HM, Goodman, SG, Holland, SJ, Boehler, RM, Zelivyanskaya, ML, Margul, DJ,, **Cummings, BJ**, Anderson, AJ and LD Shea (2014). "Long-term characterization of axon regeneration and matrix changes using multiple channel bridges for spinal cord regeneration". *Tissue Engineering Part A*, 2014 Mar;20(5-6):1027-37. doi: 10.1089/ten.TEA.2013.0111. Epub 2013 Dec 11. PMID: 24168314. IF=4.6
62. Sontag, C, N. Uchida, **B.J. Cummings**, and A.J. Anderson. (2014) "Injury to the spinal cord niche alters the engraftment dynamics of human neural stem cells." (Accepted Sep 16, 2013) *Stem Cell Reports*, 2:620-632. PMID: 24936450 <http://dx.doi.org/10.1016/j.stemcr.2014.03.005> IF 5.4
63. Nguyen HX, Haus DL, Funes G, Moreno D, Nekanti U, Kamei N, **Cummings BJ** & Anderson AJ. (2014) "Induction of early neural precursors and derivation of tripotent neural stem cells from human pluripotent stem cells under xeno-free conditions". *J Comp Neurol*, DOI: 10.1002/cne.23604 PMID: 24715528. IF=4.0
64. Thomas, AM, Seidlits, SK, Goodman, AG, Kukushliev, TV, Hassanlic, DM, **Cummings, BJ**, Anderson, AJ, and Shea, LD (2014) "Sonic hedgehog and neurotrophin-3 increase oligodendrocyte numbers and myelination after spinal cord injury". *Integrative Biology*, 6:694-705 DOI: 10.1039/C4IB00009A IF=4.3
65. Haus, D., Nguyen, H., Gold, EM, Kamei, N, Perez, H, Moore HD, Anderson, AJ, and **Cummings, B.J** (2014). "CD133-enriched Xeno-Free human embryonic-derived neural stem cells expand rapidly in culture and do not form teratomas in immunodeficient mice". *Stem Cell Research*. <http://dx.doi.org/10.1016/j.scr.2014.06.008> IF=4.8
66. Leyan Xu, Jiwon Ryu, Hakim Hiel, Adarsh Menon, Ayushi Aggarwal, Elizabeth Rha, Vasiliki Mahairaki, **Brian J Cummings**, and Vassilis E Koliatsos. (2015) Transplantation of human oligodendrocyte progenitor cells in an animal model of diffuse traumatic axonal injury: survival and differentiation *Stem Cell Research & Therapy* 6(1):93. DOI:10.1186/s13287-015-0087-0 IF=4.6
67. **Cummings, BJ*** Kiran, P*, Thomas, AM, Shea, LD, Levine, A, Pfaff, S and Anderson, AJ. (2015) "Biomaterial bridges enable regeneration and re-entry of corticospinal tract axons into the caudal spinal cord after SCI: association with recovery of forelimb function" *Biomaterials*, 65:1-12 doi: 10.1016/j.biomaterials.2015.05.032. Epub 2015 Jun 23. IF=8.9.

68. Piltti, KM, Avakian, SN, Funes, G, Hu, A, Uchida N., Anderson A.J. and **Cummings BJ** (2015) "Transplantation dose alters the dynamics of human neural stem cell engraftment, proliferation and migration after spinal cord injury" *Stem Cell Research*. doi:10.1016/j.scr.2015.07.001. IF 4.8
69. Chang, J, Phelan, M and **Cummings, BJ** (2015). "A meta-analysis of efficacy in pre-clinical human stem cell therapies for traumatic brain injury" *Experimental Neurology* 273, 225-233. IF 4.7
70. Koliatsos, VE, L Xu, and **B.J. Cummings** (2015). "Stem cell therapies for traumatic brain injury" *Regenerative Medicine*. Nov 6, doi:10.2217/rme.15.62. IF=2.8
71. Haus, D.L., López-Velázquez, L, Gold, E.M., Cunningham, K.M., Perez, H., Anderson, A.J. & **Cummings, B.J** (2016). "Transplantation of human neural stem cells restores cognition in an immunodeficient rodent model of traumatic brain injury." *Experimental Neurology*. Jul;281:1-16. doi: 10.1016/j.expneurol.2016.04.008. Epub 2016 Apr 11. PMID 27079998. IF 4.7
72. Anderson, A.J. & **B.J. Cummings**, "Achieving Informed Consent for Cellular Therapies: A Preclinical Translational Research Perspective on Regulations versus a Dose of Reality" *Journal of Medicine, Law, and Ethics* (*in press*)

Submitted Manuscripts

1. Hooshmand, M.J., H. X. Nguyen, S. Hong, N. Uchida, **B.J. Cummings**, & A.J. Anderson. "Polymorphonuclear leukocytes induce astroglial differentiation and migration of human neural stem cells via synthesis of Complement C1q and C3a" (*submitted*)
2. Piltti, KM, Funes, G, Avakian, SN, Salibian, AA, Huang, KI, Uchida N., **Cummings, BJ** and Anderson A.J "Increasing human neural stem cell transplantation dose alters oligodendroglial and neuronal differentiation after spinal cord injury" (*submitted*)
3. Anderson A.J., Piltti, KM, Hooshmand, M.J., Nishi, R.A., and **Cummings, BJ** "Pre-clinical analysis of HuCNS-SC efficacy for therapeutic application in cervical spinal cord injury" (*submitted*)

In Preparation

1. Stefania Beretta, Luci López-Velázquez, Daniel L Haus, George A Lacuesta, Janae Bustos, Harvey Perez, Eric Gold, Diane Su, Aileen J Anderson & **Brian J Cummings**. "Long-term effects of traumatic brain injury on emotion and cognition in athymic nude rats"
2. Gold, E. Tiefenthaler, C, & **Cummings B.J.** "Elucidating the Pathophysiology of White Matter Damage in Repeat Mild Traumatic Brain Injury"

Book Chapters (peer-reviewed)

1. Cotman, C.W., **B.J. Cummings**, and J.S. Whitson (1991). "The role of misdirected plasticity in plaque biogenesis and Alzheimer's disease pathology." In Growth Factors and Alzheimer's disease. Hefti, F., Brachet, P., Will, B. and Christen, Y., Editors. Berlin, Springer-Verlag. 222-233.
2. Cotman, C.W., C.J. Pike and **B.J. Cummings** (1992). "Adaptive versus pathological plasticity: Possible contributions to age-related dementia." In Advances in Neurology. Seil, F.J., ed. New York, Raven Press, Ltd. 35-45.
3. Cotman, C.W., **B.J. Cummings**, and C.J. Pike (1993). "Molecular cascades in adaptive versus pathological plasticity." In Neuroregeneration. Gorio, A., Editor. Raven Press. 217-240.

4. Ruehl, W., J. Neilson, B. Hart, E. Head, D. Bruyette, and **B.J. Cummings** (1998). "Therapeutic actions of L-deprenyl in dogs: A model of human brain aging." *Advances in Pharmacology*. D.S. Goldstein, G. Eisenhofer, and R. McCarty, Editors, San Diego: Academic Press; **42**:316-319.
5. Hooshmand, M.J., A.J. Anderson, & **B.J. Cummings** (2014). "Improved pre-embedded immunoelectron microscopy procedures to preserve myelin integrity in mammalian central nervous tissue". In Microscopy: Advances in Scientific Research and Education, edited by A. Mendez-Vilas, Spain: Formatex Research Center; **6**(1): 59-65.

Edited Books/Special Journal issues (*not peer reviewed*)

1. Pike, C.J, **B.J. Cummings**, and C.W. Cotman (1995). "Contributions of β -amyloid to reactive astrocytosis in Alzheimer's disease." In Research Advances in Alzheimer's Disease and Related Disorders, Iqbal, K.; Mortimer, J.; Winblad, B. and Wisniewski, H., eds. John Wiley & Sons Ltd, 619-628.
2. Cotman, C.W. and **B.J. Cummings** (1999). "Trophic factors and cell adhesion molecules can drive dysfunctional plasticity and senile plaque formation in Alzheimer's disease through a breakdown in spatial and temporal regulation", in CNS Regeneration: Basic Science and Clinical Advances, M. Tuszynski, K. Bankiewicz, and J. Kordower, Editors, Academic Press: San Diego. 529-553.
3. **Cummings BJ**, M.J. Hooshmand, D.L. Salazar, and A.J. Anderson (2008). "Human neural stem cell mediated repair of the contused spinal cord: Timing the microenvironment" In From Development to Degeneration and Regeneration of the Nervous System, Charles Ribak, Editor, Oxford University Press. 297-322.

Conference proceedings (*peer-reviewed*)

1. Wang, T., P.C.Y. Sheu, **B.J. Cummings**, and C.W. Cotman (1998). "An object relational database for brain aging research." *Proceedings IEEE International Symposium on Reliable Distributed Systems*. West Lafayette, IN, October 1998.
2. **Cummings, B.J.**, S. Mobley, C. Chubb, C.W. Cotman, A.J.L. Mason, and P.C.Y. Sheu (2000). "A Web-Based Clinical-Neuropathological-Imaging Relational Database to Simplify Data Management in Alzheimer's Research" *Armed Forces Communications and Electronics Association, Federal Database Colloquium*, September 2000. 101-124.
3. C. Chubb, Y. Inagaki, C. Cotman, **B.J Cummings**, P.C. Sheu (2003). "Semantic biological image management and analysis" In, *Proceedings. 15th IEEE International Conference on Tools with Artificial Intelligence*; 12/2003
4. Sheu, PCY, **B.J. Cummings**, C.W. Cotman, C. Chubb, L. Hu, J. Johnson, S. Mobley, T. Sitch, and Y. Inagaki (2000). "An object relational approach to Biomedical databases". *International IEEE Symposium on Bio-Informatics and Biomedical Engineering (BIBE-2000)*, Washington, D.C., Nov. 8-10, 2000.
5. Kulkarni, I, Mistry, S.Y., **Cummings, B.J.**, & M. Gopi. (2011). "A visual navigation system for querying neural stem cell imaging data." In proceeding of: 2011 IEEE Conference on Visual Analytics Science and Technology, VAST 2011, Providence, Rhode Island, USA, October 23-28, 2011; pp.211-220

6. Kulkarni, I, Mukherjee, U., Sontag, C, **Cummings, B.J.**, & M. Gopi. (2011) "Robust Segmentation and Tracking of Generic Shapes of Neuro-stem Cells". IEEE International Conference on Healthcare Informatics, Imaging and Systems Biology, HISB 2011, San Jose, CA, USA, July 26-29, 2011; 01/2011

Journal Articles, other (not peer reviewed)

1. Cotman, C.W. and **B.J. Cummings** (1991). "Pathology of Alzheimer's disease." *Neuroscience Facts* **2**: 1-2.
2. **Cummings, B.J.**, C.J. Pike, and C.W. Cotman (1996). "Author's response to Open Peer Commentaries" *Neurobiology of Aging*, **17**: 945-947.
3. Adlard, P.A. and **B.J. Cummings** (2004). "Alzheimer's disease – A sum greater than its parts?" *Neurobiology of Aging*, 25:725-733.
4. Piltti, K.M, Daffertshofer, M, and **Cummings, B.J** (2012). "Quantification of Human Neural Stem Cell Fate using Volocity 3D Image Analysis Software" *Microscopy Today*, 20(3). doi:10.1017/S1551929512000557

Abstracts

1. **Cummings, B.J.**, R.J. Bridges, A. Kundi and C.W. Cotman (1988). "Gliotoxic activity of excitatory amino acids." *Soc Neurosci Abstr* **14**: 585.
2. **Cummings, B.J.** and C.W. Cotman (1990). "Basic fibroblast growth factor (bFGF) promotes entorhinal layer II cell survival after perforant path axotomy." *Soc Neurosci Abstr* **16**: 995.
3. Cotman, C.W., F. Gómez-Pinilla and **B.J. Cummings** (1991). "Basic fibroblast growth factor in the mature brain." In *The fibroblast growth factor family*. Baird, A. and Klagsbrun, M., eds. New York, NY, The New York Academy of Sciences. 27.
4. **Cummings, B.J.**, J.W. Geddes, W. Van Nostrand, S. Wagner, D.D. Cunningham and C.W. Cotman (1991). "APP immunopositive granules are present in a subset of senile plaques within Alzheimer's disease." *Soc Neurosci Abstr* **17**: 1444.
5. Su, J.S., **B.J. Cummings** and C.W. Cotman (1991). "Immunochemical localization of heparan sulfate glycosaminoglycans in Alzheimer's disease." *Soc. Neurosci Abstr* **17**: 693.
6. **Cummings, B.J.**, J.H. Su, C.W. Cotman, R. White and M. Russell (1992). "BA4 accumulation in aged canine brain: An animal model of early plaque formation in Alzheimer's disease." *Soc Neurosci Abs* **18**: 560.
7. Su, J.H., **B.J. Cummings** and C.W. Cotman (1992). "Dystrophic neurites are composed of both dendrites and axons, and may be associated with early stage neurofibrillary tangles in Alzheimer's disease." *Soc Neurosci Abstr* **18**: 566.
8. Anderson, A.J., **B.J. Cummings**, C.J. Pike, D.L. Loo and C.W. Cotman (1993). "Jun and Fos immunoreactivity in Alzheimer's brain and induction by β -amyloid in cultured neurons." *Soc Neurosci Abstr* **19**: 1251.
9. Head, E., G. Ivy, **B.J. Cummings**, C.W. Cotman and N.W. Milgram (1993). "Cognitive function and Alzheimer's-like pathology in the aged canine: I. Spatial learning and memory." *Soc Neurosci Abstr* **19**:1046.

10. **Cummings, B.J.**, P.E. Honsberger, A.J. Afagh, E. Head, G. Ivy, N.W. Milgram and C.W. Cotman (1993). "Cognitive function and Alzheimer's-like pathology in the aged canine: II. Neuropathology." *Soc Neurosci Abstr* **19**: 1046.
11. Su, J.H., **B.J. Cummings** and C.W. Cotman (1993). "Two subtypes of dystrophic neurites exhibit distinct immunocytochemical and argentophilic characteristics." *Soc Neurosci Abstr* **19**: 193.
12. **Cummings, B.J.**, A. Afagh, C.J. Pike, E. Head, N.W. Milgram, M. Russell and C.W. Cotman (1994). "Astrocytic association with different plaque subtypes: Evidence from Alzheimer's, Down's and Canine tissue." *Soc Neurosci Abst* **20**: 604.
13. Pike, C.J., **B.J. Cummings** and C.W. Cotman (1994). "Aggregated β -amyloid induces reactive astrocytosis both *in vitro* and in Alzheimer's disease." *Soc Neurosci Abst* **20**: 1247.
14. Su, J.H., **B.J. Cummings** and C.W. Cotman (1994). "The abnormal phosphorylation of tau protein at Ser-202 is preferentially located in neurites and precedes abnormal phosphorylation at Ser-396 in Alzheimer's disease." *Soc Neurosci Abst* **20**: 1035.
15. Kesslak, J. P., **Cummings, B. J.** and I. Lott (1994). "Do developmental abnormalities in Down syndrome contribute to the early onset of dementia?" *Pediatrics Abstracts*.
16. **Cummings, B.J.**, C.J. Pike and C.W. Cotman (1994). "PHF-1 immunopositive dystrophic neurites are preferentially associated with thioflavine positive β -pleated plaques and not diffuse amyloid plaques." *Neurobiology Aging* **15** (Supplement 1): S152.
17. Pike, C.J., **B.J. Cummings** and C.W. Cotman (1994). " β -amyloid induced reactive changes in cultured astrocytes parallel astrocytosis associated with senile plaques in Alzheimer's disease." *Neurobiology of Aging* **15** (1S): S71.
18. **Cummings, B.J.**, C.J. Pike and C.W. Cotman (1995). " β -amyloid accumulation within entorhinal cortex predicts severity of dementia in Alzheimer's disease." *Soc Neurosci Abst* **21**: #589.7.
19. Nielson, K.A., **B.J. Cummings** and C.W. Cotman (1995). "Copying ability correlates with early neuritic changes in parietal-occipital cortex in AD." *Soc Neurosci Abst* **21**: #195.8.
20. Weinstein, S.L., C.J. Pike, **B.J. Cummings** and C.W. Cotman (1995). "Reactive astrocytes and APP-immunoreactive dystrophic neurites are independently associated with amyloid plaques." *Soc Neurosci Abst* **21**.
21. Berchtold, N.C., **B.J. Cummings**, D.H. Cribbs, R. Shankle, D. McCleary, A. Afagh, J. Ulas, A.J. Tenner, and C.W. Cotman (1995). "C1q in Alzheimer's disease correlates to severity of dementia and colocalizes to mature plaques and neurons." *Soc Neurosci Abst* **21**: #1722
22. **Cummings, B.J.**, C.J. Pike and C.W. Cotman (1996). "Multiple neuropathological variables are correlated with the level of cognitive impairment in Alzheimer's disease." *Neurobiology of Aging* **17** (4S): S179. #722.
23. **Cummings, B.J.** and C.W. Cotman (1996) "Image analysis of beta-amyloid in Alzheimer's disease and relation to dementia severity." *Parkinson/Alzheimer's digest*.
24. Rick, T., E. Head, **B.J. Cummings**, C.W. Cotman, W.W. Ruehl, B.A. Muggenburg, and N.W. Milgram (1996). "Open field activity and human interaction vary as a function of age and breed in dogs." *Soc Neurosci Abst* **22**.

25. Head, E., H. Callahan, V. Balkissoon, C. Thirwell, G. Adams, B. Astur, R.J. Sutherland, B.A. Muggenburg, **B.J. Cummings**, C.W. Cotman and N.W. Milgram (1996). "Olfactory discrimination, reversal and learning set acquisition in young and aged dogs." *Soc Neurosci Abst* **22**.
26. **Cummings, B.J.**, S.L. Weinstein, A. Afagh and C.W. Cotman (1996). "LN3 immunopositive microglia are present within all subtypes of senile plaques in Alzheimer's disease." *Soc Neurosci Abst* **22**.
27. Anderson, A.J., W.W. Ruehl, and **B.J. Cummings** (1997). "Correlation between apoptosis and β -amyloid accumulation in cognitively assessed aged dogs." *Soc Neurosci Abst* **23**.
28. Head, E., H. Callahan, **B.J. Cummings**, B.A. Muggenberg, C.W. Cotman, and N.W. Milgram (1997). "Cognitive decline and β -amyloid accumulation in the dog: A dissociation between task and brain region." *Soc Neurosci Abst* **23**.
29. **Cummings, B.J.**, N. Hayward, S. Stoltzner, S. Molineaux and R.A. Nixon (1997). "Intraventricular infusion of okadaic acid induces mild changes in tau and APP, but fails to produce AD-like neuropathology in adult rats." *Soc Neurosci Abst* **23**.
30. **Cummings, B.J.** (1998) "If it walks like a duck, and quacks like a duck, most likely it is a duck!". *Neurobiology of Aging* **19**(4S): S145. #608.
31. Mason, A.J.L. and **B.J. Cummings**. (1999). "Optimization of techniques for the quantification of Alzheimer's-related neuropathology with digital imaging". *Soc Neurosci Abst* **25**: #238.8.
32. **Cummings, B.J.**, S. Mobley, A.J.L. Mason, R.C. Kim, J. Johnson, T. Sitch, C. Chubb, P.C.-Y. Sheu, and C.W. Cotman (2000). "Web-based Alzheimer's Informatics: Integrating clinical, pathological, and imaging data to facilitate research ". *Soc Neurosci Abst* **26**: #697.7.
33. **Cummings, B.J.**, N. Uchida, D.L. Salazar, S.J. Tamaki, M. Dohse, R. Tushinski, A.S. Tsukamoto, and A.J. Anderson (2003). "Engraftment, migration, differentiation, and functional recovery following transplantation of human Central Nervous System Stem Cells into spinal injured Nod-Scid mice". *American Society for Neural Transplantation and Repair*. Clearwater Beach, L May 1-3, 2003.
34. **Cummings, B.J.**, N. Uchida, D.L. Salazar, S.J. Tamaki, M. Dohse, R. Tushinski, A.S. Tsukamoto, and A.J. Anderson (2003). "Transplantation of human Central Nervous System Stem Cells into Nod-Scid mice with T9 level spinal cord contusion injuries". *Soc Neurosci Abst* **29**: #415.3
35. **Cummings, B.J.**, N. Uchida, S.J. Tamaki, I. Sears-Kraxberger and A.J. Anderson (2004). "Behavioral improvement, differentiation, and immuno-electron microscopy of human CNS stem cells in spinal cord injured NOD-SCID and NOD-SCID/Shiverer mice." *Soc Neurosci* **30**: #184.2
36. Luchetti, S, M.D. Galvan, R. Silva, **B.J. Cummings** and A.J. Anderson (2004). "Comparison of spontaneous recovery from spinal cord injury in mouse strains with different complement activity." *Soc Neurosci Abst* **30**.
37. Galvan, M.D., **B.J. Cummings**, H. Marsh and A.J. Anderson (2004). "sCR1 Ameliorates Spinal Cord Injury in Complement Sufficient Mice." *Soc Neurosci Abst* **30**.
38. Hooshmand, M.J. **B.J. Cummings**, N. Uchida, S.J. Tamaki, C.J. Sontag, A. Tsukamoto, R. Tushinski, A.J. Anderson (2005). Human CNS stem cell transplants survive, migrate, and promote functional recovery after spinal cord injury. #438.5, *Society for Neuroscience Abst* **31**.

39. Salazar, D.L., **B.J. Cummings**, N. Uchida, S.J. Tamaki, R.S. Tushinski, A.S. Tsukamoto, A.J. Anderson (2005). Transplantation of human central nervous system stem cells into rats under immunosuppression with cyclosporine or FK506 with moderate T9 level spinal cord contusion injuries. #438.6, *Society for Neuroscience Abst* **31**.
40. Luchetti, S, M.D. Galvan, R. Silva, **B.J. Cummings**, A.J. Anderson (2005). Strain and gender differences in complement sufficient and deficient mice after SCI. #671.12, *Society for Neuroscience*.
41. Uchida, N, A. Capela, **B.J. Cummings**, M. Dohse, A. Anderson, F. Gage, S. Back, A. Tsukamoto, S. Tamaki (2005). Temporal and sequential development of human oligodendrocytes from transplanted HCNS-SC #718.2, *Society for Neuroscience Abst* **31**.
42. Hooshmand M. J., **Cummings B.J**, Uchida N., Tamaki S. J., Sontag C. J., Tushinski B., Tsukamoto A. and Anderson A. J (2006). Behavioral recovery in human CNS-stem cell transplanted mice is not due to host environment modification. *Society for Neuroscience*.
43. Salazar D. S., **Cummings B.J.**, Uchida N., Tamaki S. J., Tushinski B., Tsukamoto A. and Anderson A. J. (2006). Delayed transplantation of human central nervous system stem cells into a NOD-scid mouse model of spinal cord injury. *Society for Neuroscience*.
44. **Cummings B.J.**, Engesser-Cesar C., and Anderson A. J. (2006). A new method for quantitative assessment of locomotor function after spinal cord injury in the mouse: validation of a horizontal ladder beam task across strain and injury severity. *Society for Neuroscience*.
45. **Cummings, B.J.**, N. Uchida, S. Tamaki, M. Hooshmand and A. Anderson (2006). "Continuing studies of human neural stem cell differentiation, integration, and promotion of locomotor recovery in spinal cord-injured adult mice." *International Journal of Developmental Neuroscience* 24(8): 545-545.
46. Hooshmand M. J., **Cummings B.J.**, Salazar, D.L., Uchida, N. Tamaki S. J., Tushinski B., Tsukamoto A. and Anderson A. J. (2007) Human neural stem cell fate is affected by the host microenvironment found at different times of transplantation after spinal cord injury. *Society for Neuroscience*.
47. Salazar, D. L., **B.J. Cummings**, M. J. Hooshmand, N. Uchida, S. J. Tamaki, R. S. Tushinski, A. S. Tsukamoto and A. J. Anderson (2007). "Delayed transplantation of human central nervous system stem cells into spinal cord injured NOD-SCID mice at 30 days post-injury results in functional recovery and increased engraftment compared to 9 day post-injury transplants." *ISSCR Annual Meeting* 287: 234.
48. Hooshmand, M. J., H. X. Nguyen, **B.J. Cummings**, N. Uchida, S. J. Tamaki and A. J. Anderson (2008). "Acute transplantation of human neural stem cells after spinal cord injury." *Society for Neuroscience* 2008.
49. Sontag, C, **B.J. Cummings**, D. L. Salazar, S. Tamaki, D. He, N. Uchida, A. J. Anderson (2008) "Effect of immunosuppression on the engraftment and fate of transplanted human neural stem cells in a constitutively immunodeficient mouse model of spinal cord injury" *Society for Neuroscience* 2008.
50. **Cummings, B.J**, Nikolova, V., Dohse, M., Tamaki, S.J. Meisner, R., Uchida, N. and A.J. Anderson (2008) "Effect of immunosuppressive therapy on human CNS derived stem cell (hCNS-SC) survival and differentiation in spinal injured C57/BL6 mice" *Society for Neuroscience*.

51. Hooshmand, M.J., H. X. Nguyen, S. Tamaki, **B.J. Cummings**, and A. J. Anderson (2010) “Neutrophils promote migration and astroglial differentiation of human neural stem cells transplanted immediately after spinal cord injury.” *International Society for Stem Cell Research*.
52. Piltti, K.M., Haus, D.L, Anderson, A.J., and **B.J. Cummings** (2010) “Optimization of Fluoview confocal imaging and Volocity software analysis for computer-aided 3D quantification of human neural stem cell fate from in vitro samples.” *International Society for Stem Cell Research*.
53. Sontag, C.J., Salazar, D, Uchida, N, Anderson, A.J., **B.J. Cummings** (2010) “Immunosuppressants alter human neural stem cell fate and proliferation in vitro but do not effect engraftment and fate of cells transplanted into a constitutively immunodeficient mouse model of spinal cord injury.” *International Society for Stem Cell Research*.
54. **Cummings, B.J.**, and Anderson, A.J. (2011). “The Mechanisms of Recovery Mediated By Human Stem Cell Transplantation after Spinal Cord Injury.” *Annual World Congress of IBMISPS on Brain, Spinal Cord Mapping & Imaged Guided Therapy. June 8-10, 2011*
55. Piltti, K.M., Funes, G.M. Avakian, S.N., Uchida, N. **Cummings, B.J.**, and Anderson, A.J. (2011) “Histological patterns of survival, fate, and migration in the injured spinal cord after transplantation of human neural stem cells at doses ranging from 10,000 to 500,000 cells”. *International Society for Stem Cell Research*.
56. Nguyen HX, Haus DL, Funes G, Moreno D, Nekanti U, Kamei N, **Cummings BJ** & Anderson AJ (2012) “Xeno-free transition of pluripotent stem cells and maintenance of their neural stem cell progenitor derivatives.” *International Society for Stem Cell Research*.
57. Hooshmand, MJ, Fousek K, Lucero J, Nishi R, K. Huang, K, Jadhaw, N, Dhillon, J, Perez, H, Uchida, N, **Cummings, B.J.** and A.J. Anderson (2012). “Human neural stem cells survive, differentiate, and promote recovery of function in a mouse unilateral cervical spinal cord injury model.” *American Society for Neural Therapy and Repair 2012*.
58. Piltti, K.M., Funes, G.M. Avakian, S.N., Carlock, CS, Uchida, N. **Cummings, B.J.**, and Anderson, A.J. (2012) “Histological patterns of survival, fate, and migration in the injured spinal cord after transplantation human neural stem cells at doses ranging from 10,000 to 500,000 cells.” *American Society for Neural Therapy and Repair 2012*.
59. Haus, D., Nguyen, H., Anderson, AJ, and **Cummings, B.J.** (2012). “Derivation of xeno-free human neural stem cell lines to treat traumatic brain injury and considerations of animal models of TBI” *CIRM workshop on Collaborative Opportunities in Stem Cell Research and Regenerative Medicine. Hospital Sirio-Lebanese, Sao Paulo, Brazil*.
60. Cummings BJ, Hooshmand MJ, Nishi RA, Uchida N, Huhn S, Tsukamoto, A, Guzman R, Curt A, and Anderson AJ (2012). “Human neural stem cells to treat thoracic spinal cord injury - from preclinical studies to an ongoing clinical trial”. VII Brazilian Congress on Stem Cells and Cell Therapy, Sao Paulo, Brazil
61. Haus, D., Nguyen, H., Anderson, AJ, and **Cummings, B.J.** (2012). “Xeno-Free, Enriched Human Neural Stem Cells for the Treatment of Central Nervous System Injury and Disease” *Society for Neuroscience 2012*.
62. Piltti, KM, Salazar D.L., Uchida N., **Cummings B.J.**, & Anderson A.J. (2013) “Safety and engraftment assessments of intact parenchyma versus epicenter as a transplantation site for human neural stem cells for spinal cord injury therapy”. *International Society for Stem Cell Research (Boston)*

63. Haus, D.L., Gold, E., Perez, H., Nguyen, H.X., Anderson, AJ, & **Cummings, B.J.** (2013). “Transplantation of xeon-free, sorted human embryonic-derived neural stem cells into the intact and traumatically injured rodent brain”. *International Society for Stem Cell Research (Boston)*
64. Luci López-Velázquez, Daniel L Haus, George A Lacuesta, Janae Bustos, Harvey Perez, Eric Gold, Diane Su, Aileen J Anderson & **Brian J Cummings** (2014). “Long-term effects of traumatic brain injury on emotion and cognition in athymic nude rats”. *American Society for Neural Transplantation & Repair*, Clearwater Beach, FL.
65. Haus, D.L., H. Nguyen, L López-Velázquez, E. Gold, H. Perez, K Cunningham, Anderson, AJ, & **Cummings, B.J.** (2015). “Neural restricted, FAC-sorted, human neural stem cells to treat traumatic brain injury (TBI)”. *12th Annual Conference on Brain Mapping and Therapeutics (Los Angeles)*
66. Gold, EM, Tiefenthaler, CM, Hoa, D, Anderson, AJ, Cummings BJ (2015). “Long term white matter pathology and cognitive deficits following a novel model of repetitive mild traumatic brain injury.” *American Society for Neural Transplantation & Repair*, Clearwater Beach, FL May 2015.
67. Greer, Rocky, Sherman, J, Luo, J, Botvinick, E, Venugopalan, V, and **Cummings, BJ** (2015). “An in vitro model of traumatic brain injury using human embryonic stem cell derived 3D “borganoids” and laser generated cavitation bubbles” *12th Annual Conference on Brain Mapping and Therapeutics (Los Angeles)*
68. Gold, EM, Tiefenthaler, CM, Hoa, D, Anderson, AJ, Cummings BJ (2015). “Long term white matter pathology and cognitive deficits following a novel model of repetitive mild traumatic brain injury.” *Military Health System Research Symposium*, Aug 17-20, 2015 (Florida).