

# Stanford

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## Jeffrey Goldberg

Professor of Ophthalmology

### CLINICAL OFFICES

- **Stanford Byers Eye Institute**

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### ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

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### Bio

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#### BIO

Dr. Jeffrey Goldberg is Professor and Chair of Ophthalmology at the Byers Eye Institute at Stanford University. His clinical effort is focused on patients in need of medical or surgical intervention for glaucoma and other retinal and optic nerve diseases, as well as cataract. His research is directed at neuroprotection and regeneration of retinal ganglion cells and the optic nerve, a major unmet need in glaucoma and other optic neuropathies, and his laboratory is developing novel stem cell and nanotherapeutics approaches for eye repair.

Dr. Goldberg received his B.S. magna cum laude from Yale University, and his M.D. and Ph.D. from Stanford University where he made significant discoveries about the failure of optic nerve regeneration. He did his clinical training in ophthalmology and then in glaucoma at the Bascom Palmer Eye Institute, and was awarded a fellowship from the Heed Foundation. He was named the 2010 Scientist of the Year by the Hope For Vision foundation, and received the Cogan award from the Association for Research in Vision and Ophthalmology in 2012. He was elected in 2010 to the American Society of Clinical Investigation, an honorary society of physician scientists. He directs an NIH-funded research laboratory and has developed significant expertise with implementing FDA IND clinical trials for optic nerve neuroprotection and regeneration. His goal is to translate scientific discoveries to patient therapies.

#### CLINICAL FOCUS

- Ophthalmology

#### ACADEMIC APPOINTMENTS

- Professor, Ophthalmology
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Chair of Ophthalmology, Stanford University, (2015- present)

## PROFESSIONAL EDUCATION

- Fellowship: Bascom Palmer Eye Institute Ophthalmology Training (2010) FL
- Residency: Bascom Palmer Eye Institute Ophthalmology Training (2008) FL
- Board Certification: Ophthalmology, American Board of Ophthalmology (2009)
- Internship: Santa Clara Valley Medical Center (2004) CA
- Medical Education: Stanford School of Medicine (2003) CA
- Fellowship, Bascom Palmer Eye Institute , Glaucoma (2010)
- PhD, Stanford University , Neurosciences (2003)
- MD, Stanford University , Medicine (2003)

## LINKS

- Department Site: <http://ophthalmology.stanford.edu>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Lab research on molecular mechanisms of survival and regeneration in the visual system; retinal development and stem cell biology; nanoparticles and tissue engineering. Clinical trials in imaging, biomarker development, and neuroprotection and vision restoration in glaucoma and other neurodegenerative diseases.

### CLINICAL TRIALS

- Study of NT-501 Encapsulated Cell Therapy for Glaucoma Neuroprotection and Vision Restoration, Recruiting
- Study to Evaluate Safety and Efficacy of rhNGF Eye Drops Solution Versus Vehicle in Patients With Glaucoma, Recruiting
- NT-501 CNTF Implant for Glaucoma: Safety, Neuroprotection and Neuroenhancement, Not Recruiting
- Steroids After Laser Trabeculoplasty for Glaucoma, Not Recruiting

## Teaching

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### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Kun-Che Chang, Ziming Luo, Ankush Madaan, Mollie Woodworth, Satoshi Yokota

#### Postdoctoral Research Mentor

Kun-Che Chang, Mollie Woodworth

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

## Publications

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### PUBLICATIONS

- **Vision Loss after Intravitreal Injection of Autologous "Stem Cells" for AMD** *NEW ENGLAND JOURNAL OF MEDICINE*  
Kuriyan, A. E., Albin, T. A., Townsend, J. H., Rodriguez, M., Pandya, H. K., Leonard, R. E., Parrott, M. B., Rosenfeld, P. J., Flynn, H. W., Goldberg, J. L.  
2017; 376 (11): 1047-1053
- **Soluble Adenylyl Cyclase Is Required for Retinal Ganglion Cell and Photoreceptor Differentiation.** *Investigative ophthalmology & visual science*  
Shaw, P. X., Fang, J., Sang, A., Wang, Y., Kapiloff, M. S., Goldberg, J. L.

2016; 57 (11): 5083-5092

- **Cell types differ in global coordination of splicing and proportion of highly expressed genes** *SCIENTIFIC REPORTS*  
Trakhtenberg, E. F., Nam Pho, N., Holton, K. M., Chittenden, T. W., Goldberg, J. L., Dong, L.  
2016; 6
- **Cell types differ in global coordination of splicing and proportion of highly expressed genes.** *Scientific reports*  
Trakhtenberg, E. F., Pho, N., Holton, K. M., Chittenden, T. W., Goldberg, J. L., Dong, L.  
2016; 6: 32249-?
- **Novel Roles and Mechanism for Krüppel-like Factor 16 (KLF16) Regulation of Neurite Outgrowth and Ephrin Receptor A5 (EphA5) Expression in Retinal Ganglion Cells.** *journal of biological chemistry*  
Wang, J., Galvao, J., Beach, K. M., Luo, W., Urrutia, R. A., Goldberg, J. L., Otteson, D. C.  
2016; 291 (35): 18084-18095
- **Topical administration of a Rock/Net inhibitor promotes retinal ganglion cell survival and axon regeneration after optic nerve injury.** *Experimental eye research*  
Shaw, P. X., Sang, A., Wang, Y., Ho, D., Douglas, C., Dia, L., Goldberg, J. L.  
2016
- **NEUROREGENERATION. Promoting CNS repair.** *Science*  
Cameron, E. G., Goldberg, J. L.  
2016; 353 (6294): 30-31
- **Novel Identity and Functional Markers for Human Corneal Endothelial Cells** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Bartakova, A., Alvarez-Delfin, K., Weisman, A. D., Salero, E., Raffa, G. A., Merkhofer, R. M., Kunzevitzky, N. J., Goldberg, J. L.  
2016; 57 (6): 2749-2762
- **Ocular Stem Cell Research from Basic Science to Clinical Application: A Report from Zhongshan Ophthalmic Center Ocular Stem Cell Symposium** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*  
Ouyang, H., Goldberg, J. L., Chen, S., Li, W., Xu, G., Li, W., Zhang, K., Nussenblatt, R. B., Liu, Y., Xie, T., Chan, C., Zack, D. J.  
2016; 17 (3)
- **The Frequency of Optical Coherence Tomography Testing in Glaucoma at a Single Academic Medical Center** *JOURNAL OF GLAUCOMA*  
Griffith, J. F., Goldberg, J. L.  
2016; 25 (3): E241-E247
- **Report on the National Eye Institute Audacious Goals Initiative: Regenerating the Optic Nerve.** *Investigative ophthalmology & visual science*  
Goldberg, J. L., Guido, W., For The Agi Workshop Participants  
2016; 57 (3): 1271-1275
- **Transplanted neurons integrate into adult retinas and respond to light.** *Nature communications*  
Venugopalan, P., Wang, Y., Nguyen, T., Huang, A., Muller, K. J., Goldberg, J. L.  
2016; 7: 10472-?
- **Control of Retinal Ganglion Cell Positioning and Neurite Growth: Combining 3D Printing with Radial Electrospun Scaffolds** *TISSUE ENGINEERING PART A*  
Kador, K. E., Grogan, S. P., Dorthe, E. W., Venugopalan, P., Malek, M. F., Goldberg, J. L., D'Lima, D. D.  
2016; 22 (3-4): 286-294
- **Krüppel-Like Factor 4 (KLF4) Is Not Required for Retinal Cell Differentiation.** *eNeuro*  
Fang, J., Shaw, P. X., Wang, Y., Goldberg, J. L.  
2016; 3 (1)
- **Is uveitis associated with topiramate use? A cumulative review.** *Clinical ophthalmology (Auckland, N.Z.)*  
Goldberg, J. L., Lau, A. G., Fan, B., Ford, L., Greenberg, H. E.  
2016; 10: 1467-1470
- **Efficient Generation of Human Embryonic Stem Cell-Derived Corneal Endothelial Cells by Directed Differentiation** *PLOS ONE*  
McCabe, K. L., Kunzevitzky, N. J., Chiswell, B. P., Xia, X., Goldberg, J. L., Lanza, R.  
2015; 10 (12)

- **Muscle A-Kinase Anchoring Protein-a is an Injury-Specific Signaling Scaffold Required for Neurotrophic- and Cyclic Adenosine Monophosphate-Mediated Survival.** *EBioMedicine*  
Wang, Y., Cameron, E. G., Li, J., Stiles, T. L., Kritzer, M. D., Lodhavia, R., Hertz, J., Nguyen, T., Kapiloff, M. S., Goldberg, J. L.  
2015; 2 (12): 1880-1887
- **Rat Model of Photochemically-Induced Posterior Ischemic Optic Neuropathy** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*  
Wang, Y., Brown, D. P., Watson, B. D., Goldberg, J. L.  
2015
- **Treatment of Inherited Eye Defects by Systemic Hematopoietic Stem Cell Transplantation** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Rocca, C. J., Kreymerman, A., Ur, S. N., Frizzi, K. E., Naphade, S., Lau, A., Tran, T., Calcutt, N. A., Goldberg, J. L., Cherqui, S.  
2015; 56 (12): 7214-7223
- **Mapping the 3D Connectivity of the Rat Inner Retinal Vascular Network Using OCT Angiography** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Leahy, C., Radhakrishnan, H., Weiner, G., Goldberg, J. L., Srinivasan, V. J.  
2015; 56 (10): 5785-5793
- **In vivo imaging of axonal transport of mitochondria in the diseased and aged mammalian CNS** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Takahara, Y., Inatani, M., Eto, K., Inoue, T., Kreymerman, A., Miyake, S., Ueno, S., Nagaya, M., Nakanishi, A., Iwao, K., Takamura, Y., Sakamoto, H., Satoh, et al  
2015; 112 (33): 10515-10520
- **The N-terminal Set-beta Protein Isoform Induces Neuronal Death** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Trakhtenberg, E. F., Morkin, M. I., Patel, K. H., Fernandez, S. G., Sang, A., Shaw, P., Liu, X., Wang, Y., Mlacker, G. M., Gao, H., Velmeshev, D., Dombrowski, S. M., Vitek, et al  
2015; 290 (21): 13417-13426
- **Promoting filopodial elongation in neurons by membrane-bound magnetic nanoparticles** *NANOMEDICINE-NANOTECHNOLOGY BIOLOGY AND MEDICINE*  
Pita-Thomas, W., Steketee, M. B., Moysidis, S. N., Thakor, K., Hampton, B., Goldberg, J. L.  
2015; 11 (3): 559-567
- **Magnetic field-guided cell delivery with nanoparticle-loaded human corneal endothelial cells** *NANOMEDICINE-NANOTECHNOLOGY BIOLOGY AND MEDICINE*  
Moysidis, S. N., Alvarez-Delfin, K., Peschansky, V. J., Salero, E., Weisman, A. D., Bartakova, A., Raffa, G. A., Merkhofer, R. M., Kador, K. E., Kunzevitzky, N. J., Goldberg, J. L.  
2015; 11 (3): 499-509
- **Clinical and Electrophysiologic Characteristics of a Large Kindred with X-Linked Retinitis Pigmentosa Associated with the RPGR Locus** *OPHTHALMIC GENETICS*  
Tzu, J. H., Arguello, T., Berrocal, A. M., Berrocal, M., Weisman, A. D., Liu, M., Hess, D., Caputo, M., Goldberg, J. L., Feuer, W. J., Stone, E. M., Lam, B. L.  
2015; 36 (4): 321-326
- **Prevalence of comorbid retinal disease in patients with glaucoma at an academic medical center.** *Clinical ophthalmology (Auckland, N.Z.)*  
Griffith, J. F., Goldberg, J. L.  
2015; 9: 1275-1284
- **Retinal ganglion cell polarization using immobilized guidance cues on a tissue-engineered scaffold** *ACTA BIOMATERIALIA*  
Kador, K. E., Alsehli, H. S., Zindell, A. N., Lau, L. W., Andreopoulos, F. M., Watson, B. D., Goldberg, J. L.  
2014; 10 (12): 4939-4946
- **The role of soluble adenylyl cyclase in neurite outgrowth** *BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR BASIS OF DISEASE*  
Stiles, T. L., Kapiloff, M. S., Goldberg, J. L.  
2014; 1842 (12): 2561-2568
- **Regenerative Cell Therapy for Corneal Endothelium.** *Current ophthalmology reports*  
Bartakova, A., Kunzevitzky, N. J., Goldberg, J. L.  
2014; 2 (3): 81-90
- **Molecular mechanisms of the suppression of axon regeneration by KLF transcription factors** *NEURAL REGENERATION RESEARCH*

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- Apara, A., Goldberg, J. L.  
2014; 9 (15): 1418-1421
- **Isolation and Characterization of Mesenchymal Progenitor Cells From Human Orbital Adipose Tissue** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Chen, S., Mahabole, M., Horesh, E., Wester, S., Goldberg, J. L., Tseng, S. C.  
2014; 55 (8): 4842-4852
  - **Regulation of Intrinsic Axon Growth Ability at Retinal Ganglion Cell Growth Cones** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Steketee, M. B., Oboudiyat, C., Daneman, R., Trakhtenberg, E., Lamoureux, P., Weinstein, J. E., Heidemann, S., Barres, B. A., Goldberg, J. L.  
2014; 55 (7): 4369-4377
  - **Femtosecond Laser-Assisted Astigmatic Keratotomy for Postoperative Trabeculectomy-Induced Corneal Astigmatism** *JOURNAL OF REFRACTIVE SURGERY*  
Kankariya, V. P., Diakonis, V. F., Goldberg, J. L., Kymionis, G. D., Yoo, S. H.  
2014; 30 (7): 502-504
  - **Regulating Set-beta's Subcellular Localization Toggles Its Function between Inhibiting and Promoting Axon Growth and Regeneration** *JOURNAL OF NEUROSCIENCE*  
Trakhtenberg, E. F., Wang, Y., Morkin, M. I., Fernandez, S. G., Mlacker, G. M., Shechter, J. M., Liu, X., Patel, K. H., Lapins, A., Yang, S., Dombrowski, S. M., Goldberg, J. L.  
2014; 34 (21): 7361-7374
  - **ACUTE RETINAL PIGMENT EPITHELIUM DETACHMENTS AFTER PHOTOCOAGULATION** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*  
Moysidis, S. N., Vajzovic, L., Gregori, G., Goldberg, J. L.  
2014; 34 (4): 749-760
  - **Retinal repair with induced pluripotent stem cells** *TRANSLATIONAL RESEARCH*  
Al-Shamekh, S., Goldberg, J. L.  
2014; 163 (4): 377-386
  - **Survival and Integration of Developing and Progenitor-Derived Retinal Ganglion Cells Following Transplantation** *CELL TRANSPLANTATION*  
Hertz, J., Qu, B., Hu, Y., Patel, R. D., Valenzuela, D. A., Goldberg, J. L.  
2014; 23 (7): 855-872
  - **Fuchs endothelial corneal dystrophy: clinical characteristics of surgical and nonsurgical patients.** *Clinical ophthalmology (Auckland, N.Z.)*  
Goldberg, R. A., Raza, S., Walford, E., Feuer, W. J., Goldberg, J. L.  
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  - **Amacrine Cell Subtypes Differ in Their Intrinsic Neurite Growth Capacity** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
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  - **A tunable synthetic hydrogel system for culture of retinal ganglion cells and amacrine cells** *ACTA BIOMATERIALIA*  
Hertz, J., Robinson, R., Valenzuela, D. A., Layik, E. B., Goldberg, J. L.  
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  - **Tissue engineering the retinal ganglion cell nerve fiber layer** *BIOMATERIALS*  
Kador, K. E., Montero, R. B., Venugopalan, P., Hertz, J., Zindell, A. N., Valenzuela, D. A., Uddin, M. S., Lavik, E. B., Muller, K. J., Andreopoulos, F. M., Goldberg, J. L.  
2013; 34 (17): 4242-4250
  - **Nanotechnology and glaucoma: little particles for a big disease** *CURRENT OPINION IN OPHTHALMOLOGY*  
Pita-Thomas, D. W., Goldberg, J. L.  
2013; 24 (2): 130-135
  - **A Novel Rodent Model of Posterior Ischemic Optic Neuropathy** *JAMA OPHTHALMOLOGY*  
Wang, Y., Brown, D. P., Duan, Y., Kong, W., Watson, B. D., Goldberg, J. L.  
2013; 131 (2): 194-204
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- **beta 1 Integrin-Focal Adhesion Kinase (FAK) Signaling Modulates Retinal Ganglion Cell (RGC) Survival** *PLOS ONE*  
Santos, A. R., Corredor, R. G., Obeso, B. A., Trakhtenberg, E. F., Wang, Y., Pomattam, J., Dvoriantschikova, G., Ivanov, D., Shestopalov, V. I., Goldberg, J. L., Fini, M. E., Bajenaru, M. L.  
2012; 7 (10)
- **Mitochondrial Dynamics Regulate Growth Cone Motility, Guidance, and Neurite Growth Rate in Perinatal Retinal Ganglion Cells In Vitro** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Steketee, M. B., Moysidis, S. N., Weinstein, J. E., Kreymerman, A., Silva, J. P., Iqbal, S., Goldberg, J. L.  
2012; 53 (11): 7402-7411
- **Scaffolds and stem cells: delivery of cell transplants for retinal degenerations.** *Expert review of ophthalmology*  
Kador, K. E., Goldberg, J. L.  
2012; 7 (5): 459-470
- **Role of electrical activity in promoting neural repair** *NEUROSCIENCE LETTERS*  
Goldberg, J. L.  
2012; 519 (2): 134-137
- **A chemical genetic approach identifies piperazine antipsychotics as promoters of CNS neurite growth on inhibitory substrates** *MOLECULAR AND CELLULAR NEUROSCIENCE*  
Johnstone, A. L., Reiersen, G. W., Smith, R. P., Goldberg, J. L., Lemmon, V. P., Bixby, J. L.  
2012; 50 (2): 125-135
- **Soluble Adenylyl Cyclase Activity Is Necessary for Retinal Ganglion Cell Survival and Axon Growth** *JOURNAL OF NEUROSCIENCE*  
Corredor, R. G., Trakhtenberg, E. F., Pita-Thomas, W., Jin, X., Hu, Y., Goldberg, J. L.  
2012; 32 (22): 7734-7744
- **Kruppel-like Factor 7 engineered for transcriptional activation promotes axon regeneration in the adult corticospinal tract** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Blackmore, M. G., Wang, Z., Lerch, J. K., Motti, D., Zhang, Y. P., Shields, C. B., Lee, J. K., Goldberg, J. L., Lemmon, V. P., Bixby, J. L.  
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- **Glaucoma 2.0: Neuroprotection, Neuroregeneration, Neuroenhancement** *OPHTHALMOLOGY*  
Chang, E. E., Goldberg, J. L.  
2012; 119 (5): 979-986
- **Investigation of nanoparticles using magnetic resonance imaging after intravitreal injection** *CLINICAL AND EXPERIMENTAL OPHTHALMOLOGY*  
Raju, H. B., Hu, Y., Padgett, K. R., Rodriguez, J. E., Goldberg, J. L.  
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- **Epigenetic regulation of axon and dendrite growth.** *Frontiers in molecular neuroscience*  
Trakhtenberg, E. F., Goldberg, J. L.  
2012; 5: 24-?
- **Epigenetic regulation of axon and dendrite growth** *FRONTIERS IN MOLECULAR NEUROSCIENCE*  
Trakhtenberg, E. F., Goldberg, J. L.  
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- **The Role of Serotonin in Axon and Dendrite Growth** *AXON GROWTH AND REGENERATION, PT 2*  
Trakhtenberg, E. F., Goldberg, J. L.  
2012; 106: 105-126
- **Signaling Endosomes and Growth Cone Motility in Axon Regeneration** *AXON GROWTH AND REGENERATION, PT 2*  
Steketee, M. B., Goldberg, J. L.  
2012; 106: 35-73
- **Multiple Transcription Factor Families Regulate Axon Growth and Regeneration** *DEVELOPMENTAL NEUROBIOLOGY*  
Moore, D. L., Goldberg, J. L.  
2011; 71 (12): 1186-1211

- **Nanoparticle-mediated signaling endosome localization regulates growth cone motility and neurite growth** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Steketee, M. B., Moysidis, S. N., Jin, X., Weinstein, J. E., Pita-Thomas, W., Raju, H. B., Iqbal, S., Goldberg, J. L.  
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- **Kruppel-like transcription factors in the nervous system: Novel players in neurite outgrowth and axon regeneration** *MOLECULAR AND CELLULAR NEUROSCIENCE*  
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2011; 47 (4): 233-243
- **Evaluation of Magnetic Micro- and Nanoparticle Toxicity to Ocular Tissues** *PLOS ONE*  
Raju, H. B., Hu, Y., Vedula, A., Dubovy, S. R., Goldberg, J. L.  
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- **Foxn4 is required for retinal ganglion cell distal axon patterning** *MOLECULAR AND CELLULAR NEUROSCIENCE*  
Kunzevitzky, N. J., Almeida, M. V., Duan, Y., Li, S., Xiang, M., Goldberg, J. L.  
2011; 46 (4): 731-741
- **Four Steps to Optic Nerve Regeneration** *JOURNAL OF NEURO-OPHTHALMOLOGY*  
Moore, D. L., Goldberg, J. L.  
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- **Amacrine Cell Gene Expression and Survival Signaling: Differences from Neighboring Retinal Ganglion Cells** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Kunzevitzky, N. J., Almeida, M. V., Goldberg, J. L.  
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- **Neurotrophic Effect of a Novel TrkB Agonist on Retinal Ganglion Cells** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
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- **KLF Family Members Regulate Intrinsic Axon Regeneration Ability** *SCIENCE*  
Moore, D. L., Blackmore, M. G., Hu, Y., Kaestner, K. H., Bixby, J. L., Lemmon, V. P., Goldberg, J. L.  
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- **Electrical activity enhances neuronal survival and regeneration** *JOURNAL OF NEURAL ENGINEERING*  
Corredor, R. G., Goldberg, J. L.  
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- **gamma-Synuclein as a marker of retinal ganglion cells** *MOLECULAR VISION*  
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- Lam, B. L., Goldberg, J. L., Hartley, K. L., Stone, E. M.  
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- **Eph-dependent tyrosine phosphorylation of ephexin1 modulates growth cone collapse** *NEURON*  
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2005; 46 (2): 191-204
  - **Intrinsic neuronal regulation of axon and dendrite growth** *CURRENT OPINION IN NEUROBIOLOGY*  
Goldberg, J. L.  
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  - **Gene expression profiling of purified rat retinal ganglion cells** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
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  - **An oligodendrocyte lineage-specific semaphorin, sema5A, inhibits axon growth by retinal ganglion cells** *JOURNAL OF NEUROSCIENCE*  
Goldberg, J. L., Vargas, M. E., Wang, J. T., Mandemakers, W., Oster, S. F., Sretavan, D. W., Barres, B. A.  
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Holman, M. S., Caporale, D. A., Goldberg, J., Lacombe, E., Lubelczyk, C., Rand, P. W., Smith, R. P.  
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Zack, D. J., Qian, J., Goldberg, J. L., Farkas, R. H.  
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