

## **CURRICULUM VITAE**

### **PERSONAL:**

Name: Karl G. Csaky

Current Appointment: T. Boone Pickens Senior Scientist  
Director, Harrington Macular Degeneration Laboratory  
Anderson Vision Research Center  
Retina Foundation of the Southwest  
Consultant, Duke Clinical Research  
Institute

Marital Status: Married: Wife: Eva Son: Kristof Daughter: Katrina

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Medical Licensure: North Carolina License #: 2007-00542  
District of Columbia License #: MD19163  
Texas License #:

Specialty Certification(s) and Dates: Board Certification – Ophthalmology - 1991

### **EDUCATION:**

1974-1978: Vanderbilt University  
Nashville, Tennessee  
Cum Laude, B.A.

1978-1983: University of Louisville  
School of Medicine  
Louisville, Kentucky  
M.D.

- 1978-1983: University of Louisville  
Department of Pharmacology  
Louisville, Kentucky  
Ph.D. Dissertation:  
“Fluorodeoxyuridine metabolism  
by the isolated perfused rat liver”  
Confirmed 1987
- 1983-1985: Internship/Residency in Medicine  
Duke University Medical Center  
Durham, North Carolina
- 1985-1986: Fulbright Scholar  
Prof. Meyer-Schwickerath  
University of Essen Eye Clinic  
Essen, West Germany
- 1986-1987: Research Training Fellow  
Estelle Doheny Eye Foundation  
University of Southern California  
Los Angeles, California
- 1987-1990: Ophthalmology Residency  
Washington University  
St. Louis, Missouri
- 1990-1991: Fellowship in Medical Retina  
Wilmer Eye Institute  
Johns Hopkins University  
Baltimore, Maryland
- 1991-1993: Biotechnology Fellow - Molecular Biology  
Stuart Aaronson, M.D.  
National Cancer Institute  
National Institutes of Health  
Bethesda, Maryland
- 1993–1998: Medical Officer  
National Eye Institute  
National Institutes of Health  
Bethesda, Maryland
- 1998–2004: Tenure-Track Investigator  
National Eye Institute  
National Institutes of Health  
Bethesda, Maryland

2004–12/2006: Tenured Senior Investigator  
National Eye Institute  
National Institutes of Health  
Bethesda, Maryland

1/2007 – 8/09: Tenured Associate Professor  
Department of Ophthalmology  
Duke University Medical Center  
Durham, NC

**HONORS AND SPECIAL ACHIEVEMENTS:**

1. Member Curriculum Committee  
University of Louisville School of Medicine  
1978-1981
2. PMA Fellowship Award - 1981-82
3. Alpha Omega Alpha Medical Honor Society - 1983
4. Israel B. Muss Memorial Award Recipient - 1981
5. Fulbright Scholar - 1985-86
6. Rosenbaum Research Award  
Washington University - 1990
7. Heed Fellow - 1990-91

**PROFESSIONAL AFFILIATIONS:**

1. Member of the Association for Research in Vision  
and Ophthalmology
2. Fellow American Academy of Ophthalmology
3. Member Macula Society

**CLINICAL TRIALS:**

1. Principal Investigator: NEI/NIH Phase I Study of Investigation of Dermal Fibroblasts and Monocytes in Patients with Age-Related Macular Degeneration by Microarray Analysis
2. Principal Investigator: NEI/NIH Phase I Study on the Feasibility of Feeder Vessel Treatment for Choroidal Neovascularization in Age-related Macular Degeneration
3. Study Chair: NEI/Pharmacia – Multi-Center Clinical Trial for the Evaluation of Celecoxib in Patients with Choroidal Neovascularization in Age-related Macular Degeneration Undergoing Photodynamic Therapy
4. Study Chair: NEI/QLT - Multi-center, randomized, prospective phase II/III (registration / NDA) clinical trial to study the effects of preservative –free

triamcinolone acetonide as an adjunct to photodynamic therapy in participants with neovascular age-related macular degeneration with PDT in the treatment of neovascular AMD

5. Study Chair: NEI/Alcon – A Randomized, Masked, Multi-center, Phase II Study of the Effect of Posterior Juxtasclear Delivery of Anecortave Acetate (PJD) on the Response to Intravitreal Bevacizumab (Avastin®) in Participants with Subfoveal Choroidal Neovascularization (CNV) Secondary to Age-Related Macular Degeneration (AMD)
6. Study Chair: Duke/iCo Therapeutics – Multi-center open label phase I Study on the Effects of a c-Raf Anti-Sense Oligonucleotide on Diabetic Macular Edema
7. Study Chair: Duke/Schering Plough – Phase I/II Safety Study on the Ocular Toxicity of a Thrombin Receptor Antagonist in Patients with Atherosclerotic Disease

### **Research Support**

1. (Csaky) PI

01/01/2007 – 12/31/2008                      \$95,000

International Retinal Research Foundation

Circulating Endothelial Precursor Cells (cEPCs) as Predictors of the Development of Choroidal Neovascularization (CNV) in Patients with High Risk Age-Related Macular Degeneration (hr/AMD).

2. (Csaky) PI

01/01/2007 – 12/31/2008                      \$100,000

Alcon Research Fund

3. 1R01 EY01880-01 (Csaky & Cousins) Co-PI

04/01/08-03/31/13

NIH/NEI

Vascular Progenitor Cells in Neovascular AMD

This project investigates the role of bone marrow derived vascular progenitors in patients with macular degeneration and in experimental CNV and how their function changes in aging.

Role: Co-PI

### **INVITED LECTURES:**

1. Nordic HUGO Workshop on Gene Therapy.  
Aarhus, Denmark May 30 - June 1, 1997.
2. 2nd International EU Meeting on "New Therapeutic Approaches in Hereditary Eye Disease". Athens, Greece Sept. 26-29, 1997
3. Fifth Annual Indian Retina Vitreous Meeting Hyderabad, India September

- 5-6, 1998
4. Retina Society, Washington, D.C., September, 1998
5. Schepens International Society Annual Meeting. Jackson Hole, Wyoming June 9-12, 1999
6. Schepens Aging Retina Meeting. Boston, Massachusetts October 25 – 28, 2001.
7. Invited Professorship – University of Iowa – December 5, 2003.
8. Invited Speaker – Science of Eye Disease Series – University of Arizona – December 12, 2003
9. Invited Visiting Professor – Columbia University February 19, 2004
10. Invited Visiting Professor – University of Louisville March, 2005

### **INDUSTRY COOPERATIVE RESEARCH AGREEMENTS:**

1. Entremed: Development of 2-methoxyestradiol for the treatment of choroidal neovascularization in age-related macular degeneration.
2. Valigen: Development of chimera-plasty for in-vivo gene correction in the retina .
3. Pharmacia: The role of anti-inflammatory agents in choroidal neovascularization.
4. Merck KgaA: Preclinical integrin antagonist implant development and efficacy assessment.

### **PUBLICATIONS:**

1. Deak, S.T., Csaky, K.G., and Waddell, W.J.  
Localization and histochemical correlation of 73As by whole body autoradiography in mice. Toxicology and Environmental Health, 1: 981-984, (1976).
2. Csaky, K.G., LaCreta, F.P., Warren, B.S. and Williams, W.M.  
5-Fluoro-2,-deoxyuridine elimination by the isolated perfused rat liver. Cancer Research 48: 3561-3565, (1988).
3. Csaky, K.G. and Custer, P.L. Perineural metastasis by squamous cell carcinoma into the orbit. Ophthalmic Surgery 21(3): 218-219, (1990).
4. Csaky, K.G. and Olk. J. Retinal detachment and retinal holes in retinitis pigmentosa sine pigmento. Europ J Ophthal. 1: 151-153, (1991).
5. Panos, R.J., Rubin, J.S., Csaky, K.G., Aaronson, S.A. and Mason, R.J. Keratinocyte growth factor and hepatocyte growth factor/scatter factor are heparin -binding growth factors for alveolar

type II cells in fibroblast-conditioned medium. *J Clin Invest.* 92: 969-977, (1993).

6. Chedid, M., Rubin, J., Csaky, K. and Aaronson, S. Regulation of keratinocyte growth factor gene expression by interleukin 1. *J Biol Chem.* 269:10753-10758, (1993)

7. Koji, R., Chedid, M., Rubin, J.S., Slayden, O.D. Csaky, K.G., Aaronson, S.A. and Brenner, R.M. Progesterone dependent expression of keratinocyte growth factor (KGF) mRNA in stromal cells of the primate endometrium: KGF as a progestomedin. *J Cell Biology* 125:393-401, (1994).

8. Campochiaro, P.A., Hackett, S.F., Viores, S.A., Freud, J., Csaky, K., et al. Platelet -derived growth factor is an autocrine growth stimulator in retinal pigmented epithelial cells. *J. Cell Sci.* 107:2459-2469, (1994).

9. Kaiser-Kupfer M.I. Chan, CC., Markello, T.C., Crawford, M.A., Caruso, R. C., Csaky, K.G., Guo, J., and Gahl, W.A. Bietti's Crystalline Dystrophy: Natural history, biochemical and clinical pathologic correlations. *Am J Ophthal.* 118: 569-582, (1994).

10. Viores, S.A., Henderer, J.D., Mahlow, J., Chiu, C., Derevjani, N.L., LaRochelle, W., Csaky, K. and P.A. Campochiaro. Isoforms of platelet-derived growth factor and its receptors in epiretinal membranes: immunolocalization to retinal pigmented epithelial cells. *Exp Eye Res.* 60: 607-619, (1995).

11. Marchese, C., Chedid, M, Dirsch, O.R., Csaky, K.G., Santanelli, F., Latini, C., LaRochelle, W.J., Torrisi, M.R. and Aaronson, S.A. Modulation of keratinocyte growth factor and its receptor in reepithelializing human skin. *J Exp Med.* 182: 1369-1376, (1995).

12. Sullivan, D, Anglade, E., Cheung, D., Nussenblatt, R. and Csaky, K.G. Adenovirus mediated gene transfer of ornithine aminotransferase in cultured human RPE. *Invest Ophthal Vis Sci.* 37: 766-774, (1996).

13. Chedid, M., Csaky, K.G. and Rubin, J.S. Glucocorticoids inhibit keratinocyte (KGF) production in primary dermal fibroblasts. *Endocrinology* 137:2232-7, (1996).

14. Whitcup, S.M., Csaky, K.G., Chew, E. and Nussenblatt, R. A

randomized, masked, cross-over trial of acetazolamide for cystoid macular edema in patients with uveitis. *Ophthalmology* 103:1054-62, (1996).

15. Cioci, V, Csaky, K.G., Rubin, J.S., Bottaro, D. Aaronson, S.A. HGF/NK1, a naturally occurring antagonist to HGF/SF variant with partial agonist/antagonist activity. *J. Biol. Chem.* 271: 13110-5, (1996).

16. Anglade, E, Sullivan, D. and Csaky, K.G. Generation of recombinant interleukin-10 immunoadhesin by replication-defective adenovirus. *J Immunological Methods.* 202: 41-49, (1997).

17. Csaky, K.G. and Caruso, R. Gallium nitrate optic neuropathy. *Amer J Ophthalmol.* 124: 567-8, (1997).

18. Sullivan, D., Jensen, T., Taichman, L., Nussenblatt, R and Csaky, K.G. Correction of ornithine metabolism in gyrate atrophy keratinocytes: Towards development of an ornithine sink. *Gene Ther* 4: 1036-44, (1997).

19. Sime, P.J., Xing, Z., Graham, F.L., Csaky, K.G. and Gauldie, J. Adenovirus-mediated gene transfer of active TGF- $\beta$  1 induces prolonged aggressive fibrosis in rat lung. *J Clin Invest.* 100: 768-76, (1997).

20. Jensen, T.G., Sullivan, D.M., Morgan, R.A., Taichman, L.B., Nussenblatt, R.B., Blaese, R.M. and Csaky, K.G. Retroviral mediated gene transfer of ornithine-d-aminotransferase into keratinocytes from gyrate atrophy patients. *Hum Gene Ther.* 8: 2125-32, (1997).

21. Nussenblatt, R.B. and Csaky, K.G. Perspectives on gene therapy in the treatment of ocular inflammation. *Eye.* 11: 217-221, (1997).

22. Sullivan, D.M., Erb, L., Anglade, E., Weisman G.A., Turner, J.T. and Csaky, K.G. Identification and characterization of P2Y<sub>2</sub> nucleotide receptors in human retinal pigment epithelial cells. *J Neurosci Res.* 49: 43-52, (1997).

23. Anglade, E and Csaky, K.G. Adenovirus mediated gene transfer into adult rat retina. *Curr Eye Res.* 17:316-321, (1998).

24. Flower, R.W., Csaky, K.G. and Murphy, R.P. Disparity between fundus camera and scanning laser ophthalmoscope indocyanine green imaging of retinal pigment epithelial detachments. *Retina* 18: 260-8. (1998).

25. Marmorstein, A.D., Gan, Y.C., Bonilha V.L., Finnemann, S.C., Csaky, K.G. and Rodriguez-Boulan, E. Apical polarity of N-CAM and EMMPRIN in retinal

pigment epithelium resulting from suppression of basolateral signal recognition. *J Cell Biol.* 142: 697-710, (1998).

26. Chew E.Y., Benson, W.E., Remaley, N.A., Lindley, A.A., Burton, T.C., Csaky, K., Williams, G.A. and Ferris, F.L. Results after lens extraction in patients with diabetic retinopathy: early treatment diabetic retinopathy study report number 25. *Arch Ophthalmol.* 117: 1600-6, (1999).
27. Csaky, K. and Nussenblatt, R. Gene therapy in the treatment of ocular inflammation. *Springer Semin Immunopathol.* 21:191-7, (1999).
28. Tarttelin, E.E., Kirschner, L.S., Bellingham, J., Baffi, J., Taymans, S.E., Gregory-Evans, K., Csaky, K., Stratakis, C.A. and Gregory-Evans, C.Y. Cloning and characterization of a novel orphan G-protein-coupled receptor localized to human chromosome 2p16. *Biochem Biophys Res Commun.* 260:174-80, (1999).
29. Nussenblatt, R.B., Schiffman, R., Fortin, E., Robinson, M., Smith, J., Rizzo, L., Csaky, K., Gery, I., Waldmann, T. and Whitcup, S.M. Strategies for the treatment of intraocular inflammatory disease. *Transplant Proc.* 30:4124-5, (1998).
30. Marmorstein, A.D., Csaky, K.G., Baffi, J., Lam, L., Rahaal, F. and Rodriguez-Boulan, E. Saturation of, and competition for entry into, the apical secretory pathway. *Proc Natl Acad Sci.* 97:3248-53, (2000).
31. Baffi, J., Byrnes, G., Chan, C.C. and Csaky, K.G. Choroidal Neovascularization in the Rat Induced by adenovirus mediated expression of vascular endothelial Growth Factor. *Invest Ophthalmol Vis Sci.* 41: 3582-9, (2000).
32. Robinson, M.R., Reed, G., Csaky, K.G., Polis, M.A. and Whitcup, S.M. Immune recovery uveitis in patients with cytomegalovirus retinitis taking highly active retroviral therapy. *Am J Ophthalmol.* 130: 49-56, (2000)
33. Caruso, R.C., Nussenblatt, R.B., Csaky, K.G., Valle, D. and Kaiser-Kupfer, M.I. Assessment of visual function in patients with gyrate atrophy who are considered candidates for gene replacement. *Arch Ophthalmol* 113: 667-69 (2001).
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35. Fine, H.F., Akin, C., Hematti, P., Butman, J., Caruso, R.C., Csaky, K.G., Metcalkfe, K.K., Nussenblatt, R.B., Robinson, M.R., Presumed choroidal and orbital mastocytosis. *Arch Ophthalmol.* 119: 1716-1719 (2001).

36. Fine, H.F., Baffi, J., Reed, G.F., Csaky, K.G. and Nussenblatt, R.B. Intraocular and plasma vascular endothelial growth factor in uveitis-associated cystoid macular edema. *Am J Ophthalmol* 132: 794-6 (2001)
37. McAuliffe, M.J., Lalonde, F.M., McGarry, D., Gandler, W., Csaky, K., and Trus, B.L. Medical Image Processing, Analysis & Visualization in Clinical Research: Proceedings: Fourteenth IEEE Symposium on Computer-Based Medical Systems, IEEE Computer Society 26-27: 381-386 (2001).
38. Velez, G., Chan C.C. and Csaky, K.G. Fluorescein angiographic findings in primary intraocular lymphoma, *Retina* 22: 37-43 (2002).
39. Robinson, M.R., Baffi, J., Yuan, P., Sung, C., Byrnes, G., Cox, T.A. and Csaky, K.G. Safety, pharmacokinetics and pharmacodynamics of intravitreal 2-methoxyestradiol implants in normal rabbit and in a rat model of choroidal neovascularization. *Exp Eye Res.* 74:309-17(2002).
40. Espinosa-Heidmann, D., Suner, I., Hernandez, E., Frazier, W., Csaky, K.G. and Cousins, S.W. Age as an independent risk factor for severity of experimental choroidal neovascularization. *Invest Ophthalmol Vis Sci.* 43:1567-73 (2002).
41. Tsilou, E., Csaky, K. and Kaiser-Kupfer, M. Retinal visualization in an eye with corneal crystals using indocyanine green videoangiography. *Am J Ophthalmol.* 134:123-5 (2002).
42. Cousins, S.W., Espinosa-Heidmann, D.G., Alexandridou, A., Sall, J., Dubovy, S., and Csaky, K. The role of aging, high fat diet and blue light exposure in an experimental mouse model for basal laminar deposit formation. *Exp Eye Res.* 75:543-53 (2002).
43. Marin-Castanos, M.E., Elliot, S.J., Potier, M., Karl, M., Striker, L.J., Striker, G.E., Csaky, K.G., Cousins, S.W. Estrogens regulate estrogen receptor and MMP-2 expression in human retinal pigmented epithelium: implications for age-related macular degeneration. *Invest Ophthalmol Vis Sci.* 44:50-9 (2003).
44. Csaky, K.G. and Tolentino, M.J. Clinician's Corner: Ocular photodynamic therapy with verteporfin: Clinical trial results and current indications for treatment. *Focal Points.* 20: 12-17 (2002).
45. Ciulla, T.A., Criswell, M.H., Danis, R.P., Fronheiser, B.S., Yan, P. Cox, T.A., Csaky, K.G. and Robinson, M.R. Choroidal neovascular membrane inhibition in a laser-treated rat model with intraocular-sustained-release triamcinolone acetonide micro-implants. *Br J Ophthalmol* 87: 1032-7(2003)

46. Zhang, C., Baffi, J., Cousins, S.W. and Csaky, K.G. Control of apoptosis in retinal pigment epithelial cells through the release of apoptosis-inducing factor. *J Cell Sci* 116:1915-23 (2003).
47. Wright ME, Suzman DL, Csaky KG, Masur H, Polis MA, Robinson MR. Extensive retinal neovascularization as a late finding in human immunodeficiency virus-infected patients with immune recovery uveitis. *Clin Infect Dis.* 36: 1063-6 (2003).
48. Csaky, K.G. Anti-VEGF therapy for neovascular age-related macular degeneration: promises and possible pitfalls. *Ophthalmol* 110:879-81 (2003).
49. Marmorstein, A., Peachey, N. and Csaky, K. In-vivo gene transfer as a means to study the physiology and morphogenesis of the retinal pigment epithelium in the rat. *Methods* 30:277-85 (2003).
50. Espinosa-Heidmann, D.G., Suner, I.J., Hernandez, E.P., Monroy, D., Csaky, K.G., Cousins, S.W. Macrophage depletion diminishes lesion size and severity in experimental choroidal neovascularization. *Invest Ophthalmol Vis Sci.* 44:3586-92 (2003).
51. Srivastava, S.K. and Csaky, K.G. Identification of well-defined intrachoroidal neovascularization by high-speed indocyanine green angiography. *Retina* 23: 712-4 (2003).
52. Emily Y. Chew, E.Y., Ferris, F.L., Csaky, K.G., Murphy, R.P., Agron, E., Thompson, D.J.S., Reed, G.F., Schachat, A.P The long-term effects of laser photocoagulation treatment in patients with diabetic retinopathy: The early treatment diabetic retinopathy follow-up study. *Ophthalmol.* 23: 712-4 (2003).
53. Robinson, M.R., Csaky, K.G., Lee, S.S., Masur, H., Polis, M.A. Fibrovascular changes misdiagnosed as cytomegalovirus retinitis reactivation in a patient with immune recovery. *Infect Dis.* 38: 139-41 (2004).
54. Espinosa-Heidmann, D., Caicedo, A., Panneerselvam, K, Hernandez, E., Csaky, K., Cousins, S.W. Vasculogenesis contributes to choroidal neovascularization. *Invest Ophthalmol Vis Sci.* 44:4914-9 (2003).
55. Csaky, K.G., Baffi, J., Chan, C.C. and Byrnes, G. A. Clinicopathologic correlation of progressive fibrovascular proliferation associated with occult choroidal neovascularization in age-related macular degeneration. *Arch Ophthalmol* 122: 650-2 (2004).
56. Csaky, K.G., Baffi, J.Z., Byrnes, G.A., Ponce, L., Wolfe, J.D., Cousins, S.W. Recruitment of marrow-derived endothelial cells to experimental choroidal

neovascularization (CNV) by local expression of vascular endothelial growth factor (VEGF). *Exp Eye Res* 78:1107-16 (2004).

57. Cousins, S., Espinosa-Heidmann, D. and Csaky, K.G. Monocyte activation in patients with AMD: a biomarker of risk for choroidal neovascularization? *Arch Ophthalmol* 122:1013-18 (2004).

58. Kim, H., Robinson, M.R., Lizak, M.J., Tansey, G., Lutz, R.J., Yuan, P., Wang, N.M., Csaky, K.G. Controlled drug release from an ocular implant: an evaluation using dynamic 3-dimensional magnetic resonance imaging. *Invest Ophthalmol Vis Sci*: 45: 2722-31 (2004).

59. Rodriguez-Coleman, H., Yuan, P., Kim, H., Gravlín, L., Srivastava, S., Csaky, K.G., Robinson, M.R. Intravitreal injection of triamcinolone for diffuse macular edema. *Arch Ophthalmol* 122:1085-6 (2004).

60. Tuo, J., Smith, B.C., Bojanowski, C.M., Meleth, A.D., Gery, I., Csaky, K.G., Chew, E.Y., Chan, C.C. The involvement of sequence variation and expression of CX3CR1 in the pathogenesis of age-related macular degeneration. *FASEB J* 18:1297-9 (2004).

61. Robinson, M.R., Lee, S.S., Rubin, B.I., Wayne, A.S., Pavletic, S.Z., Bishop, M.R., Childs, R., Barrett, A.J., Csaky, K.G. Topical corticosteroid therapy for cicatricial conjunctivitis associated with chronic graft-versus-host disease. *Bone Marrow Transplant* 33:1031-5 (2004).

62. Wolfe, J.D., Csaky, K.G. A study of retinal vessel closure using indocyanine green enhanced laser photocoagulation. *Exp Eye Res* 79:631-8 (2004).

63. Strunnikova, N, Baffi, J., Zhang , C., D. Teichberg, D., Becker, K.G., Cousins, S.W., Csaky K.G. Cellular and molecular responses to nonlethal oxidative injury in retinal pigment epithelial cells (RPE). *Invest Ophthalmol Vis Sci* 45:3767-77 (2004).

64. Robinson, M.R., Chan, C.C., Yang, J.C., Rubin, B.I., Gracia, G.J., Sen, H.N., Csaky, K.G., Rosenberg, S.A. Cytotoxic T lymphocyte-associated antigen 4 blockade in patients with metastatic melanoma: a new cause of uveitis *J Immunother.* 27:478-9 (2004).

65. Kim, H., Lizak, M.J., Tansey, G., Csaky, K.G., Robinson, M.R., Yuan, P., Wang, N.S., Lutz, R.J. Study of ocular transport of drugs released from an intravitreal implant using magnetic resonance imaging. *Annals of Biomedical Engineering*, 33:150-164 (2005).

66. Kim, H., Csaky, K.G., Gilger, B.C., Dunn, J.P., Lee, S.S., Tremblay, M., de Monasterio, F., Tansey, G., Yuan, P., Bungay, P.M., Lutz, R.J. Robinson, M.R.

Preclinical evaluation of a novel episcleral cyclosporine implant for ocular graft-versus-host disease. *Invest Ophthalmol Vis Sci.* 46:655-62 (2005).

67. Espinosa-Heidmann, D., Reinoso, M.A., Pina, Y., Csaky, K., Caicedo, A., Cousins, S.W. Quantitative enumeration of vascular smooth muscle cells and endothelial cells derived from bone marrow precursors in experimental choroidal neovascularization. *Exp Eye Res.* 80: 369-78 (2005).

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69. Strunnikova, N., Hilmer, S., Flippin, J., Robinson, M.R., Hoffman, E., Csaky, K.G. Differences in gene expression profiles in dermal fibroblasts from control and patients with age related macular degeneration elicited by oxidative injury. *Free Radic Biol Med* 39: 781-96 (2005).

70. Cusick, M., SanGiovanni, J.P., Chew, E.Y., Csaky, K.G., Hall-Shimel, K., Reed, G.F., Caruso, R.C., Ferris, F.L. 3<sup>rd</sup>. Central visual function and the NEI-VFQ-25 near and distance activities subscale scores in people with type 1 and 2 diabetes. *Am J Ophthalmol.* 139: 1042-50 (2005).

71. Marin-Castano, M.E., Csaky, K.G., Cousins, S.W. Nonlethal oxidant injury to human retinal pigment epithelium cells causes cell membrane blebbing but decreased MMP-2 activity. *Invest Ophthalmol Vis Sci.* 46: 3331-40 (2005).

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75. Meleth, A.D., Agron, E., Chan, C.C., Reed, G.F., Arora, K., Byrnes, G., Csaky, K.G., Ferris, F.L. 3<sup>rd</sup>, Chew, E.Y. Serum inflammatory markers in diabetic retinopathy. *Invest Ophthalmol Vis Sci.* 46: 4295-301 (2005).

76. Robinson, M.R., Lee, S.S., Kim, H., Kim, S., Lutz, R.J., Galban, C., Bungay, P.M., Yuan, P., Wang, N.S., Kim, J., Csaky, K.G. A rabbit model for assessing

the ocular barriers to the transscleral delivery of triamcinolone acetonide. *Exp Eye Res.* 82:479-87(2006)

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78. Cruysberg, L.P., Franklin, A.J., Sanders, J., Self, C., Yuan, P., Csaky, K.G., Robinson, M.R., Kohn, E.C., Edelhauser, H.F. Effective transscleral delivery of two retinal anti-angiogenic molecules: carboxyamido-triazole (CAI) and 2-methoxyestradiol (2ME2). *Retina* 8:1022-31 (2006).

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