

BIOGRAPHICAL SKETCH

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NAME Maria Cristina Kenney, M.D., Ph.D		POSITION TITLE Professor	
eRA COMMONS USER NAME MCKenney			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of New Mexico, Albuquerque, NM	B.A.	1971	Biology/Chemistry
University of Arizona, Tucson, AZ	Ph.D.	1976	Anatomy/Biochemistry
Univ. of Southern California, Los Angeles, CA	Post-Doc	1976-78	Collagen/Biochemistry
UCLA, Los Angeles, CA	M.D.	1987	Medicine

A. POSITIONS AND HONORS**PROFESSIONAL POSITIONS:**

1972-1976 Teaching Assistant in Anatomy, University of Arizona, Tucson, AZ
 1976-1978 Research Associate, Departments of Biochemistry/Ophthalmology, Univ. of So. CA., L.A., CA
 1978-1985 Assistant Professor in Anatomy, University of California, Davis
 1987-1988 Internship Medicine, Cedars-Sinai Medical Center, L.A., CA
 1988-1989 Research Fellowship, Cedars-Sinai Medical Center, L.A., CA
 1989-1992 Resident in Ophthalmology, White Memorial affiliated with Loma Linda University, L. A., CA
 1985-1998 Research Scientist III, Ophthalmology Research Dept, Cedars-Sinai Medical Center, L.A., CA
 1998-2002 Research Scientist IV, Ophthalmology Research Dept, Cedars-Sinai Medical Center, L.A., CA
 2002-present Professor, Department of Ophthalmology, University of California, Irvine, Irvine CA

AWARDS AND HONORS:

Emil Bogan Research Prize for Outstanding Research as a Medical Student, 1987, UCLA.
 Solomon Scholar Award for Medical Research, 1988 & 1989, Cedars-Sinai Med. Center and UCLA.
 Paul Rubenstein Award for Research, 1989, Cedars-Sinai Medical Center, Los Angeles.
 Member of Visual Science A Study Section, Division of Research Grants, NIH, July, 1996 to June 30, 2000 (Chairperson 1998-2000)

B. SELECTED PEER-REVIEWED PUBLICATION (Selected publications from a total of 93).

- Maguen E, Zorapapel NC, Zieske JD, Ninomiya Y, Sado Y, **Kenney MC**, Ljubimov AV. 2002 Extracellular matrix and metalloproteinase changes in human corneas after complicated laser assisted in situ keratomileusis (LASIK). *Cornea*. 21:95-100.
- Buddi R, Lin B, Rosenberg S, Zorapapel N, **Kenney MC**, Brown DJ. 2002 Evidence of oxidative stress in human diseased corneas. *J Histochem & Cytochem*, 50(3):341-351.
- Ljubimov AV, Atilano RS, Garner MH, Maguen E, Nesburn AB, **Kenney MC**. 2002 Extracellular matrix and Na⁺,K⁺-ATPase in human corneas following cataract surgery. Comparison with bullous keratopathy and Fuchs' dystrophy corneas. *Cornea*. 21:74-80.
- Castellon R, Hamdi HK, Sacerio I, Aoki AM, **Kenney MC**, Ljubimov AV. 2002 Effects of angiogenic growth factor combinations on retinal endothelial cells. *Exp Eye Res*. 74:523-535.
- Hamdi HK, Reznik J, Castellon R, Atilano SR, Ong JM, Udari N, Tavis JH, Aoki AM, Nesburn AB, Boyer D, Small KW, Brown DJ, **Kenney MC**. 2002 Alu DNA polymorphism in ACE gene is protective for age-related macular degeneration. *Biochem & Biophys Res Comm*. 295:668-672.
- Castellon R, Caballero S, Hamdi HK, Atilano SR, Aoki AM, Tarnuzzer RW, **Kenney MC**, Grant MB, Ljubimov AV. 2002 Effects of tenascin-C on normal and diabetic retinal endothelial cells in culture. *Invest Ophthalmol Vis Sci*. 43:2758-2766. 2003.

7. Schmidt S, Klaver CCW, Saunders AM, Postel EA, De La Paz M, Agarwal A, Small KW, Udar N, Nesburn A, **Kenney MC**, Dormurath RM, Hogan M, Mah TS, Ferrell RE, Weeks DE, de Jong PTVM, van Duijin CM, Haines JL, Pericak-Vance MA, Gorin MB, APOE-AMD Consortium. 2002 A pooled case-control study of the Apolipoprotein E (APOE) gene in age-related macular degeneration. *Ophthalmic Genet* 23:209-223.
8. Saghizadeh M, Brown DJ, Tajbakhsh J, Chen Z, **Kenney MC**, Farber SB, Nelson SF 2003 Evaluation of techniques using amplified nucleic acid probes for gene expression profiling. *Biomolecular Engineering*. 20:97-106.
9. Ong JM, Aoki AM, Seigel GM, Sacerio I, Castellon R, Nesburn AB, **Kenney MC**. 2003 Oxysterol-induced toxicity in R28 and ARPE-19 cells. *Neurochemical Res*. 28:883-891.
10. Ong JM, Aoki AM, Zorapapel NC, Brown DJ, Nesburn AB, Rich KR, **Kenney MC**. 2003 Impaired ERG response and apoptosis in Apolipoprotein E-deficient mice. *Curr Eye Res*. 27:15-24.
11. **Kenney MC**, Zorapapel NC, Chwa M, Ljubimov AV, Brown DJ. 2003 Insulin-like growth factor-I (IGF-I) and transforming growth factor- β (TGF- β) modulate tenascin-C and fibrillin-1 in bullous keratopathy stromal cells in vitro. *Exp Eye Res*. 77:537-546.
12. **Kenney MC**, Atilano SR, Zorapapel NC, Holguin B, Gaster R, Ljubimov AV. 2004 Altered expression of aquaporins in bullous keratopathy and Fuchs' dystrophy corneas. *J Histochem & Cytochem*. 52:1341-1350.
13. Udar N, **Kenney MC**, Chalukya M, Anderson T, Morales L, Brown D, Nesburn AB, Small KW. 2004 Keratoconus--no association with the transforming growth factor beta-induced gene in a cohort of American patients. *Cornea*. 23:13-17.
14. Brown DJ, Lin B, Chwa M, Atilano SR, **Kenney MC**. 2004 Elements of the nitric oxide pathway can degrade TIMP-1 and increase gelatinase activity. *Molecular Vision*, 16;10:281-8.
15. Narayanan R, **Kenney MC**, Kamjoo S, Trinh TT, Brown DJ, Seigel GM, Resende GP, Kuppermann BD. 2005 Trypan blue: Effect on retinal pigment epithelial and neurosensory retinal cells. *Invest Ophthalmol Vis Sci*. 46:304-309.
16. **Kenney MC**, Chwa M, Atilano SR, Tran A, Carballo M, Saghizadeh M, Vasiliou V, Adachi S, Brown DJ. 2005 Increased catalase and cathepsin V/L2 but decreased TIMP-1 in keratoconus corneas: Evidence that oxidative stress plays a role in this disorder. *Invest Ophthalmol Vis Sci*. 46:823-832.
17. Narayanan R, **Kenney MC**, Kamjoo S, Trinh TT, Brown DJ, Seigel GM, Resende GP, Kuppermann BD. 2005 Toxicity of indocyanine green (ICG) in combination with light on human retinal pigment epithelial cells and rat neurosensory retinal cells. *Curr Eye Res*. 30:471-478.
18. Atilano S, Coskun P, Chwa M, Jordan N, Reddy V, Le K, Wallace DC, **Kenney MC**. 2005 Accumulation of mitochondrial DNA deletions in keratoconus corneas. *Invest Ophthalmol Vis Sci*. 46:1256-1263.
19. Udar N, Atilano S, Brown D, Holguin B, Small K, Nesburn AB, **Kenney MC**: 2006. SOD1 – A candidate gene for keratoconus. *Investigative Ophthalmology and Visual Sciences*. 47:3345-51.
20. Narayanan R, Mungcal JK, **Kenney MC**, Seigel GM, Kuppermann BD. 2006 Toxicity of triamcinolone acetonide on retinal neurosensory and pigment epithelial cells. *Investigative Ophthalmology and Visual Sciences*. 47:722-8.
21. Narayanan R, Gaster R, **Kenney MC**. 2006 Pseudophakic corneal edema. A review of mechanisms and treatment. *Cornea*. Oct;25:993-1004.
22. Chwa M, Atilano SR, Reddy V, Jordan N, Kim DW, **Kenney MC**. 2006 Increased stress induced generation of reactive oxygen species and apoptosis in human keratoconus fibroblasts. *Investigative Ophthalmology and Visual Sciences*. 47:1902-1910.
23. Luthra S, Narayanan R, Marques LEA, Chwa M, Kim DW, Dong J, Seigel GM, Neekhra A, Gramajo AL, Brown D, **Kenney MC**, Kuppermann BD. 2006 Evaluation of *in-vitro* safety of bevacizumab (Avastin™) on retinal pigment epithelial, neurosensory retinal and microvascular endothelial cells. *Retina*. 26:512-8.
24. Morishige N, Petroll WM, Nishida T, **Kenney MC**, Jester JV. 2006 Non-invasive corneal stromal collagen imaging using two photon generated second harmonic signals. *Journal of Cataract and Refractive Surgery*. 32:1784-91.
25. Luthra S, Fardin B, Dong J, Hertzog D, Kamjoo S, Gebremariam S, Butani V, Narayanan R, Mungcal JK, Kuppermann BD, **Kenney MC**. 2006 7-Ketocholesterol activates caspase-8 and caspase-12 pathways in human retinal pigment epithelial cells. *Investigative Ophthalmology and Visual Sciences*. 47:5569-75.

26. Morishige N, Wahlert AJ, **Kenney MC**, Brown DJ, Kawamoto K, Chikama T, Nishida T, Jester JV. 2007 Second-harmonic imaging microscopy of normal human and keratoconus cornea. *Investigative Ophthalmology and Visual Sciences*. 48:1087-94.
27. Narayanan R, Butani V, Boyer DS, Atilano RS, Resende GP, Kim DS, Chakrabarti S, Kuppermann BD, Khatibi N, Chwa M, Nesburn AB, **Kenney MC**. 2007 Complement factor H polymorphism in age related macular degeneration. *Ophthalmology*. 114:1327-31. (Highlighted article for the journal).
28. Neekhra A, Luthra S, Chwa M, Seigel G, Gramajo AL, Kuppermann BD and **Kenney MC**. 2007 Caspase-8, -12, and -3 activation by 7-ketocholesterol in retinal neurosensory cells. *Investigative Ophthalmology and Visual Sciences*. 48:1362-7.
29. Kabosova A, Azar DT, Bannikov GA, Campbell KP, Durbeef M, Ghohestani RF, Jones JCR, **Kenney MC**, Koch M, Ninomiya Y, Patton BL, Paulsson M, Sado Y, Sage EH, Sasaki T, Sorokin LM, Steiner-Champlaud MF, Sun TT, SundarRaj N, Timpl R, Virtanen I, Ljubimov AV. 2007 Compositional differences between infant and adult human corneal basement membranes. *Investigative Ophthalmology and Visual Sciences*. 48(11): 4989-99.
30. Luthra S, Dong J, Gramajo AL, Chwa M, Kim DW, Neekhra A, Kuppermann BD, **Kenney MC**. 2008 7-Ketocholesterol activates caspases-3/7, -8, and -12 in human microvascular cells in vitro. *Microvascular Research*. 75(3): 343-50.

C. RESEARCH SUPPORT---- Ongoing Research Support

Title: Genetics of Age Related Macular Degeneration

Principal Investigator: M. Cristina Kenney, M.D., Ph.D.

Agency: Discovery Fund for Eye Research/ The Lincy Foundation

Type: Private foundations. February 1, 2007 – January 31, 2007

Major goals: To study the genetics of AMD

Title: Genetics of Age Related Macular Degeneration

Principal Investigator: M. Cristina Kenney, M.D., Ph.D.

Agency: Discovery Fund for Eye Research/ The Lincy Foundation

Type: Private foundations. February 1, 2008 – January 31, 2009

Major goals: To study the genetics of AMD

Title: Diabetic Macular Edema and the Role of Aquaporins

Principal Investigator: M. Cristina Kenney, M.D., Ph.D.

Agency: Discovery Fund for Eye Research/ Gerald B. & Iris Cantor Foundation

Type: Private foundations. July 1 2004 to December 30, 2008

Major goals: To characterize the aquaporins in normal and diabetic retinas. These funds have provided support to collect tissues and initiate the studies.

Completed Research Support

Title: Abnormalities in Keratoconus Corneas

Period ending: 5/1/00 thru 4/30/04

Principal Investigator: M. Cristina Kenney, M.D., Ph.D.

Agency: NIH/NEI 2RO1 EY06807

Major Goals: The long-term goals are to elucidate the pathways and mechanisms that cause keratoconus (KC), a non-inflammatory corneal ectatic disease.

Title: The Extracellular Matrix Abnormalities in Corneal Edema

Period ending: 8/1/98 thru 7/31/04

Principal Investigator: M. Cristina Kenney, M.D., Ph.D.

Agency: NIH/NEI 1RO1 EY10836

Major goals: To determine the function of tenascin-C isoforms in bullous keratopathy corneas, the influence of growth factors and cytokines upon the expression of tenascin-C and its integrins, and to examine differential gene expression in normal and bullous keratopathy corneas. The PI on this grant is M. Cristina Kenney, M.D., Ph.D., with Dr. Alexander Ljubimov serving as Co-PI.