

CURRICULUM VITAE

MinHee K. Ko, PhD

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EDUCATION

- 1990-1994 **Bachelor of Science**, Major in Microbiology
YeongNam University, Republic of Korea
Thesis: Development of new alginate matrix by use of polyethyleneimine for microbial cell immobilization
- 1994-1996 **Master of Science**, Major in Microbiology
Chungnam National University, Republic of Korea
Thesis: PCR cloning and Expression of Protease in *Aspergillus sojae*
- 2001-2005 **Doctor of Philosophy**, Major in Pathobiology
University of Southern California, Los Angeles, USA
Thesis: Gene regulation of type I collagen and its alteration by FGF-2 during corneal endothelial mesenchymal transformation
- 2005-2008 **Post-Doctoral fellowship**, Cedars-Sinai Medical Center, Los Angeles, USA
Department of Neurosurgery and Neuroimmunology
Projects: Immune-based therapy for neurodegenerative disorders and Blood-brain barrier endothelial permeability studies

EMPLOYMENT AND PROFESSIONAL ACTIVITIES

RESEARCH ACTIVITY

Part I. Molecular mechanism of extracellular matrix alteration during corneal endothelial mesenchymal transformation

1997-2001 and 2001-2005, Research assistant and PhD graduate student
Doheny Eye Institute and University of Southern California
Mentors: **Drs EunDuck Kay and David Hinton**

Endothelial mesenchymal transformation (EMT) is one of critical step in corneal fibrosis. I found that fibroblast growth factor-2 (FGF-2) play a critical role in the EMT of corneal endothelial cells (CEC) especially involved in gene regulation of type I collagen. The physiologic collagen phenotypes of CEC are type IV and VIII collagen; but CECs also synthesize procollagen I, which is degraded intracellularly immediately after synthesis. Intracellular degradation of procollagen I is essential since its secretion onto the Descemet's membrane results in pathologic retrocorneal fibrous membrane formation. We further demonstrated that a heat shock protein, protein disulfide isomerase, is associated with procollagen I for retention of procollagen in the endoplasmic reticulum prior to degradation by the ubiquitin-proteosomal pathway. During EMT of CECs mediated by FGF-2, we found that type I collagen is secreted with the help of Hsp47, which acts as a guide for type I collagen secretion.

- a. Regulatory role of FGF-2 on type I collagen expression during endothelial mesenchymal transformation. Invest Ophthalmol Vis Sci. 2005 Dec;46(12):4495-503.
- b. PDI-mediated ER retention and proteasomal degradation of procollagen I in corneal endothelial cells. Exp Cell Res. 2004 Apr 15;295(1):25-35.
- c. Differential interaction of molecular chaperones with procollagen I and type IV collagen in corneal endothelial cells. Mol Vis. 2002 Jan 11;8:1-9.
- d. Subcellular localization of procollagen I and prolyl 4-hydroxylase in corneal endothelial cells. Exp Cell Res. 2001 Apr 1;264(2):363-71.
- e. Subcellular localization of the expressed 18 kDa FGF-2 isoform in corneal endothelial cells. Mol Vis. 2000 Nov 6;6:222-31.
- f. Hsp47-dependent and -independent intracellular trafficking of type I collagen in corneal endothelial cells. Mol Vis. 1999 Aug 19;5:17.
- g. Intracellular interaction of Hsp47 and type I collagen in corneal endothelial cells. Invest Ophthalmol Vis Sci. 1999 Feb;40(2):289-95.
- h. Fibroblast growth factor 2 uses PLC-gamma1 for cell proliferation and PI3-kinase for alteration of cell shape and cell proliferation in corneal endothelial cells. Mol Vis. 1998 Oct 27;4:22.

Part II. Immune-based therapy in vivo rodent models for neurodegenerative disease

2005-2008, Post-Doctoral researcher
Cedars-Sinai Medical Center, Los Angeles, USA
Department of Neurosurgery and Neuroimmunology
Mentor: Dr Michal Schwartz

We developed targeted immune-based therapy for neurodegenerative disease such as Alzheimer's disease and amyotrophic lateral sclerosis. As an immune-based therapy, treatment of bone-marrow derived dendritic cells followed by exposure to targeting peptide showed dramatic reduction of pathological phenotypes. I initiated an optical retinal imaging in vivo mouse model for Alzheimer's early diagnosis.

- a. Identification of amyloid plaques in retinas from Alzheimer's patients and noninvasive in vivo optical imaging of retinal plaques in a mouse model. Neuroimage. 2011 Jan;54 Suppl 1:S204-17.
- b. Thymic involution, a co-morbidity factor in amyotrophic lateral sclerosis. J Cell Mol Med. 2010 Oct;14(10):2470-82.
- c. Attenuation of AD-like neuropathology by harnessing peripheral immune cells: local elevation of IL-10 and MMP-9. J Neurochem. 2009 Dec;111(6):1409-24.

Part III. Drug screening to enhance endothelial permeability in blood-brain barrier for glioblastoma treatment

2005-2008, Post-Doctoral researcher
Cedars-Sinai Medical Center, Los Angeles, USA
Department of Neurosurgery and Neuroimmunology
Mentor: Dr Keith Black

To develop ways to increase brain tumor permeability in various rodent models. A major obstacle to treating brain tumors is the selectively permeable blood-brain barrier that limits drug efficacy. Using FDA-approved drugs and channel agonists, we improved tumor permeability and drug efficacy.

- a. PDE5 inhibitors enhance tumor permeability and efficacy of chemotherapy in a rat brain tumor model. Brain Res. 2008 Sep 16;1230:290-302.

- b. Different effects of KCa and KATP agonists on brain tumor permeability between syngeneic and allogeneic rat models. *Brain Res.* 2008 Aug 28;1227:198-206.
- c. Increase in brain tumor permeability in glioma-bearing rats with nitric oxide donors. *Clin Cancer Res.* 2008 Jun 15;14(12):4002-9.
- d. Calcium-activated potassium channels mediated blood-brain tumor barrier opening in a rat metastatic brain tumor model. *Mol Cancer.* 2007 Mar 14;6:22.

Part IV. Innate immune-mediated photoreceptor cell death in uveitis model

2008-2011, Research Scientist
Doheny Eye Institute
Mentor: Dr Narsing Rao

The role of innate immune responses in retinal degeneration with a view to clinically treating a broad range of inflammatory ocular diseases. We found that activation of the innate immune response, especially by TLR4 signaling, resulted in oxidative stress in the mitochondria and that this stress damages the retinal photoreceptors and a novel self-protective mechanism against experimental autoimmune uveitis mediated by alpha A-crystallin in the photoreceptor.

- a. The role of TLR4 activation in photoreceptor mitochondrial oxidative stress. *Invest Ophthalmol Vis Sci.* 2011 Jul 29;52(8):5824-35.
- b. Endothelial mesenchymal transformation mediated by IL-1 β -induced FGF-2 in corneal endothelial cells. *Exp Eye Res.* 2012 Feb;95(1):35-9.

Part V. Biomarkers involved in TGF β -mediated glaucoma pathogenesis including aqueous humor outflow, intraocular pressure, and tissue contractility

2011-2019, Researcher
Doheny Eye Institute
Mentor: Dr James Tan

Glaucoma is an idiopathic and incurable optic neuropathy. The molecular pathogenesis of glaucoma is unknown and hard to point therapeutic target due to lack of authentic translational platforms. We have been established in vivo mouse and in situ human organotypic model as research platforms to understand disease etiology and progression of glaucoma. Establishment novel approaches such as constant-pressure anterior chamber perfusion for outflow facility and deliver molecular probes/drugs, and 2-photon tissue-based analysis ex vivo and in vivo model.

- a. Deep tissue analysis of distal aqueous drainage structures and contractile features. *Sci Rep.* 2017 Dec 6;7(1):17071.
- b. Total outflow facility in live C57BL/6 mice of different age. *Biomedicine Hub.* 2017 November; 2:484126.
- c. Toward in vivo two-photon analysis of mouse aqueous outflow structure and function. *Exp Eye Res.* 2017 May;158:161-170.
- d. Optimizing two-photon multiple fluorophore imaging of the human trabecular meshwork. *Mol Vis.* 2016;22:203-12.
- e. Dose- and time-dependent effects of actomyosin inhibition on live mouse outflow resistance and aqueous drainage tissues. *Sci Rep.* 2016 Feb 17;6:21492.
- f. Tissue-based multiphoton analysis of actomyosin and structural responses in human trabecular meshwork. *Sci Rep.* 2016 Feb 17;6:21315.

- g. Intraocular pressure measurement in acepromazine-sedated mice. Clin Exp Ophthalmol. 2014 May-Jun;42(4):395-7.
- h. Smooth muscle features of mouse extraocular muscle. Clin Exp Ophthalmol. 2014 Apr;42(3):295-6.
- i. Feedback-controlled constant-pressure anterior chamber perfusion in live mice. Mol Vis. 2014;20:163-70.
- j. Contractile markers distinguish structures of the mouse aqueous drainage tract. Mol Vis. 2013;19:2561-70.

Part VI. Role of Th17 $\gamma\delta$ T cells and adenosine mediated immune regulation in the pathogenesis of experimental autoimmune uveitis

Dec 2019-present, Research Scientist
Doheny Eye Institute
Mentor: Dr Deming Sun

Th17 $\gamma\delta$ T cells play a major role in the pathogenesis of experimental autoimmune uveitis (EAU) and its mediated immunoregulation is linked with adenosine metabolism. Study on the molecular and cellular mechanism involved in both Th17 $\gamma\delta$ T cells and adenosine metabolism will provide the unique therapeutic window for treatment.

- a. CD73+ Dendritic cells in cascading Th17 responses of experimental autoimmune uveitis (EAU)-induced mice, Frontiers in Immunology 2020| <https://doi.org/10.3389/fimmu.2020.601272>
- b. Augmented Th17 autoimmune responses caused by reciprocal interaction between $\gamma\delta$ T cells and DCs in $\gamma\delta$ T cells, *in review*
- c. Adenosine tips the pathogenic Th1 and Th17 responses in experimental autoimmune uveitis (EAU), *in review*

*** Complete List of Published Work in My Bibliography:**

<https://www.ncbi.nlm.nih.gov/myncbi/minhee.ko.1/bibliography/public/>

PROFESSIONAL SOCIETIES AND MEMBERSHIPS

1998-present	Association for Research in Vision and Ophthalmology
1998-2010	American Society of Cell Biology
2008	International Conference on Alzheimer's disease
2008-2009	Society of Neuroscience
2007-present	Korean-American Woman Scientists and Engineers Association
2007-present	Korean-American Scientists and Engineers Association
	Gordon Research Conferences: Cornea, Biology & Pathobiology of the Cornea

HONORS AND SPECIAL AWARDS

2009	Association for Research in Vision and Ophthalmology National Eye Institute/NIH Travel Grant: "Toll-Like Receptor 4 in the Retinal Microglia Leads to Photoreceptor Oxidative Stress".
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- 2009 Basic Science Award, Doheny Eye Institute/University of Southern California, Los Angeles: “Toll-Like Receptor 4 in the Retinal Microglia Leads to Photoreceptor Oxidative Stress”
- 2014 Visiting Lecturer. “Glaucoma drug studies in a live mouse model”; and biology lectures to medical doctors and graduate students, Yonsei University, Busan University, and YeongNam University, Republic of Korea
- 2012-2014 Annual Mentor. Students and Postdoctoral Scientists of the Korean-American Woman Scientists and Engineers Association
- 2016 Invited Lecturer. “Dose- and time-dependent effects of actomyosin inhibition on live mouse resistance and aqueous drainage tissues” US-Korea Conference, Dallas, TX
- 2018 Invited speaker. “Translational platform for drug development of primary open angled glaucoma” Yonsei University, Republic of Korea

JOURNAL REVIEWER

- 2005-present *Molecular Vision*
 2005-present *Investigative Ophthalmology and Visual Sciences*
 2016-present *Scientific Reports*

COMMITTEE SERVICE

- 2008-present Organizing Committee and Session Chair, Annual Conferences of the Korean-American Woman Scientists and Engineers Association
- 2012-2014 Chapter President, Korean-American Woman Scientists and Engineers Association; Annual Regional Conferences of Los Angeles and San Diego
- 2014-2016 Vice President, Korean-American Woman Scientists and Engineers Association
- 2014-2016 Organizing Committee and Session Chair, US-Korea Annual National Conferences.
- 2012-2016 Grant Review and Consulting Committee, Korean-American Scientists and Engineers Association
- 2012-2016 Organization Committee, National Math and Science Competition of the Korean-American Scientists and Engineers Association
- 2017-present Organizing Committee, Monthly Journal Club of the Korean-American Woman Scientists and Engineers Association

PEER-REVIEWED PUBLICATIONS AND ABSTRACTS

PEER-REVIEWED PUBLICATIONS

1. Kang JH and **Kim M**, Development of new alginate matrix by use of polyethyleneimine for microbial cell immobilization, *J of Resource Devel.* 1993, 12; 103-109.

2. Kay EP, Park SY, **Ko MK**, Lee SC, Fibroblast Growth factor 2 uses PLC- γ 1 for cell proliferation and PI 3-kinase for alteration of cell shape and cell proliferation in corneal endothelial cells, *Mol Vis*, 1998, 4; 22.
3. Gu X, **Ko MK**, Kay EP. Intracellular interaction of Hsp47 and Type I collagen in corneal endothelial cells, *Invest Ophthalmol Vis Sci*. 1999, 40(2); 289-295.
4. Choi JK, **Ko MK**, Kay EP. Subcellular location of the expressed 18kDa FGF-2 isoform in corneal endothelial cells, *Mol Vis*. 2000, 6:222-231.
5. **Ko MK**, Kay EP. Hsp47-dependent and -independent Intracellular Trafficking of Type I collagen in Corneal Endothelial Cells, *Mol Vis*. 1999, 5;17-24.
6. **Ko MK**, Kay EP. Subcellular localization of procollagen I and prolyl 4-hydroxylase in corneal endothelial cells, *Exp Cell Res*. 2001, 264:260-268.
7. **Ko MK**, Kay EP. Differential interaction of molecular chaperones with procollagen I and type IV collagen in corneal endothelial cells, *Mol Vis*, 2002, 8:1.
8. **Ko MK**, Kay EP. PDI-mediated ER retention and proteasomal degradation of procollagen I in corneal endothelial cells. *Exp Cell Res*. 2004, 295(1):25-35.
9. **Ko MK**, Kay EP. Regulatory role of FGF-2 on type I collagen expression during endothelial mesenchymal transformation. *Invest Ophthalmol Vis Sci*. 2005, 46; 4495-4503.
10. Hu J, Yuan X, **Ko MK**, Yin D, Sacapano MR, Wang Z, Konda BM, Espinoza A, Prosolovich K, Ong JM, Irvin D, Black KL. Calcium-activated potassium channels mediated blood-brain tumor barrier opening in a rat metastatic brain tumor model. *Mol Cancer*, 2007, 6: 22.
11. Yin D, Wang X, Konda BM, Ong JM, Hu J, Sacapano MR, **Ko MK**, Espinoza A, Morris DK, Shu Yan, Black KL. Increase in Brain Tumor Permeability in Glioma-Bearing Rats with Nitric Oxide Donors, *Clin Cancer Res*, 2008, 14(12):4002-4009.
12. Black KL, Yin D, Konda BM, Wang X, Hu J, **Ko MK**, Bayan JA, Sacapano MR, Espinoza A, Ong JM, Morris DM, Shu Y, Different Effects of K_{Ca} and K_{ATP} Agonists on Brain Tumor Permeability between Syngeneic and Allogeneic Rat Models, *Brain Res*, 2008, 1227:198-206.
13. Black KL, Yin D, Ong JM, Hu J, Konda BM, Wang X, **Ko MK**, Bayan JA, Sacapano MR, Espinoza A, Morris-Irvin D, Shu Yan, PDE5 Inhibitors Enhance Tumor Permeability and Efficacy of Chemotherapy in a Rat Brain Tumor Model, *Brain Res*, 2008, 1230:290-302.
14. Seksenyan A, Ron-Harel N, Azoulay D, Cahalon L, Cardon M, Rogeri P, **Ko MK**, Weil M, Bulvik S, Rechavi G, Amariglio N, Konen E, Koronyo-Hamaoui M, Somech R, Schwartz M. Thymic Involution in Amyotrophic Lateral Sclerosis. *J Cell Mol Med*. 2010, 14(10):2470-82.
15. Koronyo-Hamaoui M*, **Ko MK***, Koronyo Y, Azoulay D, Seksenyan A, Kunis G, Pham M, Bakhsheshian J, Rogeri P, Black KL, Farkas DL, Schwartz M, Attenuation of AD-like neuropathology by harnessing peripheral immune cells: local elevation of IL-10 and MMP-9. *J. Neurochem*, 2009, 111(6);1409-1424 *These authors contributed equally to this study.
16. Koronyo-Hamaoui M, Koronyo Y, Ljubimov AV, Miller CA, **Ko MK**, Black KL, Schwartz M Farkas DL. Identification of amyloid plaques in retinas from Alzheimer's patients and noninvasive in vivo optical imaging of retinal plaques in a mouse model. *Neuroimage*. 2011, Jan;54 Suppl 1:S204-17. Epub 2010 Jun 13.
17. **Ko MK**, Saraswathy S, Parikh JG, Rao NA. The role of TLR4 Activation in Photoreceptor Mitochondrial Oxidative Stress, *Invest Ophthalmol Vis Sci*. 2011, July 29;52(8):5824-35.

18. Lee JG, **Ko MK**, Kay EP. Endothelial mesenchymal transformation mediated by IL-1 β -induced FGF-2 in corneal endothelial cells. *Exp Eye Res.* 2012, Feb;95(1):35-9.
19. Chu ER, Kim EK, Gonzalez JM Jr, **Ko MK**, Liew EC, Tan JCH. Intraocular pressure measurement in acepromazine-sedated mice. *Clin Exp Ophthalmol.* 2013. Jun 18. doi: 10.1111/ceo.12157.
20. **Ko MK**, Chu ER, Tan JCH, Smooth muscle features of mouse extraocular muscle, *Clin Exp Ophthalmol*, 2013, Jul 12. doi: 10.1111/ceo.12172.
21. **Ko MK**, Tan JCH. Contractile markers distinguish structures of mouse aqueous drainage tract, *Mol Vis*, 2013, 19:2561-2570.
22. **Ko MK**, Yelenskiy A, Gonzalez, JM Jr, Tan JCH, Feedback-controlled constant pressure anterior chamber perfusion in live mice, *Mol Vis*, 2014, Feb 7;20:163-70.
23. Gonzalez JM, **Ko MK**, Pouw A, Tan JCH. Tissue-based multiphoton analysis of actomyosin and structural responses in human trabecular meshwork. *Sci Rep.* 2016 Feb 17;6:21315. doi: 10.1038/srep21315. PMID: 26883567.
24. **Ko MK**, Kim EK, Gonzalez JM Jr, Tan JC. Dose- and time-dependent effects of actomyosin inhibition on live mouse outflow resistance and aqueous drainage tissues. *Sci Rep.* 2016 Feb 17;6:21492. doi: 10.1038/srep21492. PMID:26884319.
25. Gonzalez JM Jr, Ammar MJ, **Ko MK**, Tan JCH. Optimizing two-photon multiple fluorophore imaging of the human trabecular meshwork. *Mol Vis*, 2016; 22:203-212.
26. Gonzalez JM Jr, **Ko MK**, Masedunskas A, Hong YK, Weigert R, Tan JCH. Toward in vivo two-photon analysis of mouse aqueous outflow structure and function. *Exp. Eye Res.* 2016 May S0014-4835(16)30112-9.
27. Gonzalez JM Jr, **Ko MK**, Hong YK, Weigert R, Tan JCH, Deep tissue analysis of distal aqueous drainage structures and contractile features, *Sci Rep.* 2017;7:17071.
28. Yelenskiy Y*, **Ko MK***, Chu ER, Gonzalez JM Jr, Siegmund K, Tan JC. Total outflow facility in live C57BL/6 mice of different age. *Biomedicine Hub.* 2017;2: 484126, *These authors contributed equally to this study.
29. **Ko MK**, Shao H, Kaplan H J, Sun D, CD73+ Dendritic cells in cascading Th17 responses of experimental autoimmune uveitis (EAU)-induced mice *Frontiers in Immunology* 2020 <https://doi.org/10.3389/fimmu.2020.601272>

ABSTRACTS

1. **Ko MK**, Seo KS, Lee SC, Kay EP. FGF-2 alters expression of cytoskeleton proteins in the absence of phenotypic alteration of collagen in RPE cells. *ASCB* 1998.
2. **Ko MK**, Kay EP. Hsp47-Dependent and -independent intracellular trafficking of type I collagen in Corneal Endothelial Cells, *Association for Research in Vision and Ophthalmology Annual Meeting*, 1999.
3. **Ko MK**, Kay EP. Improper folding of procollagen I leads to intracellular degradation in corneal endothelial cells, *Association for Research in Vision and Ophthalmology Annual Meeting* 2000.

4. **Ko MK**, Kay EP. Procollagen I interacts with prolyl 4-hydroxylase and protein disulphide isomerase during intracellular degradation in corneal endothelial cells, ASCB 2000.
5. **Ko MK**, Kay EP. Subcellular localization of procollagen I and prolyl 4-hydroxylase in corneal endothelial cells, Association for Research in Vision and Ophthalmology Annual Meeting 2001.
6. **Ko MK**. Intracellular Degradation of Type I Collagen, the Main Character in Fibrosis: A Study of Physiological Pathway of Anti-fibrosis in Corneal Endothelial Cells. Second Annual Los Angeles Wound Healing Initiative Meeting 2002.
7. **Ko MK**, Kay EP. Role of protein disulfide isomerase for retention of procollagen I in corneal endothelial cells. Association for Research in Vision and Ophthalmology Annual Meeting 2002.
8. **Ko MK**, Kay EP. Protein disulfide isomerase facilitates ER retention and proteasomal degradation of procollagen I in corneal endothelial cells. Association for Research in Vision and Ophthalmology Annual Meeting 2003.
9. **Ko MK**, Kay EP. FGF-2- and Interleukin-1 β -mediated transcriptional regulation of pro α 1(I) collagen RNA during endothelial mesenchymal transformation. Association for Research in Vision and Ophthalmology Annual Meeting 2004.
10. **Ko MK**, Kay EP. Gene regulation of type I collagen by FGF-2 during endothelial mesenchymal transformation. Association for Research in Vision and Ophthalmology Annual Meeting 2005.
11. Hu J, Yuan X, Ong JM, Yin D, Sacapano MR, Wang X, **Ko MK**, Konda BM, Espinoza A, Black KL. Calcium-activated Potassium Channels Mediated Blood-Brain Tumor Barrier Opening in a Rat Metastatic Brain Tumor Model. American Association for Cancer Research 2007
12. Hu J, Shu Y, **Ko MK**, Phillips DJ, Konda BM, Espinoza A, Wang X, Yuan X, Black KL, Opening of blood-brain tumor barrier by phosphodiesterase type 5 (PDE5) inhibitors in a mice metastatic brain tumor model. American Association for Cancer Research 2008.
13. Koronyo-Hamaoui M, **Ko MK**, Schwartz M. Vaccination with a weak agonist of myelin-derived peptide attenuates Alzheimer's-like pathology in transgenic mice, International Conference on Alzheimer's Disease 2008.
14. Maya Koronyo-Hamaoui M, **Ko MK**, Schwartz M. Dendritic-cell vaccination with a weak agonist of myelin peptide ameliorates Alzheimer's-like pathology, Society of Neuroscience 2008.
15. **Ko MK**, Saraswathy S, Parikh JG, Rao NA. Toll-like receptor 4 in the retinal microglia leads to photoreceptor oxidative stress, Association for Research in Vision and Ophthalmology Annual Meeting 2009.
16. **Ko MK**, Rao NA. TLR4-dependent, TNF-alpha mediated oxidative stress/mitochondrial DNA damage of photoreceptor as an innate immune response, Association for Research in Vision and Ophthalmology Annual Meeting 2010.

17. **Ko MK**, Rao NA. TLR4 Activation Leads to Photoreceptor Mitochondrial Oxidative Stress. ASCB 2010.
18. Chan AS, Saraswathy S, **Ko MK**, Rao NA. The protective role of MicroRNA-140 in retinal Ischemia, Association for Research in Vision and Ophthalmology Annual Meeting 2011.
19. Rehak M, Saraswathy S, **Ko MK**, Rao NA. Time-dependent Activation of Autophagy in the Retinal Ischemia-Reperfusion Injury, Association for Research in Vision and Ophthalmology Annual Meeting 2011.
20. **Ko MK**, Rao NA. 2011, microRNA modulation of innate immune response in the retina, Association for Research in Vision and Ophthalmology Annual Meeting 2011.
21. Nazari H, **Ko MK**, Saraswathy S, Karakousis PC, Rao NA, Phagocytosis and Replication of Mycobacterium Tuberculosis in Retinal Pigment Epithelium, Association for Research in Vision and Ophthalmology Annual Meeting 2012.
22. **Ko MK**, Gonzalez JM Jr, Tan JCH. In Situ Imaging and Localization of Trabecular Meshwork Extracellular Matrix Proteins, Gordon Research Conferences: Cornea, Biology & Pathobiology of the 2012.
23. Tan JCH, Gonzalez JM Jr, **Ko MK**, In situ 3D Distribution of Filamentous Actin in Mouse Trabecular Meshwork, Association for Research in Vision and Ophthalmology Annual Meeting 2013.
24. **Ko MK**, Yelenskiy A, Gonzalez JM Jr, Tan JCH. Voltage-coupled single-needle constant-pressure anterior chamber perfusion in live mice, Association for Research in Vision and Ophthalmology Annual Meeting 2013.
25. **Ko MK**, Kim EK, Tan JCH. Glaucoma drug studies in live mice: effect of latrunculin-B on outflow facility and actomyosin contractility, Association for Research in Vision and Ophthalmology Annual Meeting 2014.
26. **Ko MK**, Tan JCH. In vivo RhoA activation increases trabecular meshwork contraction and decreases outflow facility, Association for Research in Vision and Ophthalmology Annual Meeting 2015.
27. Tan JCH, Gonzalez JM Jr, **Ko MK**, Masedunskas A, Weigert R, Hong Y, Contractile features of the distal aqueous drainage tract, Association for Research in Vision and Ophthalmology Annual Meeting 2017.
28. **Ko MK**, Gonzalez JM Jr, Tan JCH. Glaucoma features in a fibrillin-1 mutant mouse, Association for Research in Vision and Ophthalmology Annual Meeting 2017.
29. **Ko MK**, Woo J, Gonzalez JM Jr, Kim G, and Tan JCH, Fibrillin-1 mutant mouse mimics aqueous humor abnormality and phenotype of human primary open angle glaucoma, Association for Research in Vision and Ophthalmology Annual Meeting 2019.