Spotlight on 2018-2019 Publications Citing

Cell Systems Primary Human Retinal Microvascular Endothelial Cells (ACBRI 181)

Applications and Disease Models

Angiogenesis
Blood-Retinal Barrier
Diabetic Retinopathy
Drug Discovery and Development
Glaucoma
Hyperglycemia
Ischemic Retinopathy
Macular Degeneration
Mitochondrial Diseases
Oxidative Stress
Retinoblastoma
Retinopathy of Prematurity
Wound Healing

Assays

3D Culture
Adhesion
Apoptosis
Calcium Release
Cell Cycle
Co-Culture
Flow Cytometry
Glycosylation Profiling
Immunocytochemistry
Immunoprecipitation
Invasion/Migration
Mitochondrial Membrane Potential
Monolayer Permeability
Proliferation and Viability
Reactive Oxygen Species
RNAi
RT-PCR
Subcellular Fractionation
Transfection
Tube Formation
Western Blot

Select 2018-2019 Publications Listed on Following Pages →

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3D Culture

- "Human retinal endothelial cells and astrocytes cultured on 3-D scaffolds for ocular drug discovery and development" Beharry et al (2018) *Prostaglandins and Other Lipid Mediators*.
- "Three-dimensional tubule formation assay as therapeutic screening model for ocular microvascular disorders" Shariatzadeh et al (2018) *Nature: Eye.*

Adhesion Assays

- "Role of endoplasmic reticulum stress in 12/15-lipoxygenase-induced retinal microvascular dysfunction in a mouse model of diabetic retinopathy" Elmasry et al (2018) *Diabetologia*.
- "Activation of the sweet taste receptor T1R3 by sucralose attenuates VEGF-induced vasculogenesis in a cell model of the retinal microvascular endothelium" Lizunkova et al (2018) *Graefe's Archive for Clinical and Experimental Ophthalmology*.
- "Cathepsin D plays a role in endothelial–pericyte interactions during alteration of the blood–retinal barrier in diabetic retinopathy" Monickaraj et al (2018) *FASEB*.

Apoptosis Assays (Propidium Iodide, TUNEL)

- "miR-539-5p inhibits experimental choroidal neovascularization by targeting CXCR7" Feng et al (2018) *FASEB*.
- "β-Adrenergic receptor agonists attenuate pericyte loss" Yun et al (2018) *FASEB.*
- "Vitamin D3 protects against diabetic retinopathy by inhibiting high-glucose-induced activation of the ROS/TXNIP/NLRP3 inflammasome pathway" Lu et al (2018) *J Diabetes Research.*
- "Metformin suppresses retinal angiogenesis and inflammation in vitro and in vivo" Han et al (2018) *PLOS One*.
- "Profilin-1 mediates microvascular endothelial dysfunction in diabetic retinopathy through HIF-1α-dependent pathway" Ding et al (2018) *Intl J Clinical Experimental Pathology.*
- "MicroRNA-145 attenuates high glucose-induced oxidative stress and inflammation in retinal endothelial cells through regulating TLR4/NF-κB signaling" Hui and Yin (2018) *Life Sciences.*
- "Fenofibrate exerts protective effects in diabetic retinopathy via inhibition of the ANGPTL3 pathway" Wang et al (2018) *IOVS*.
- "Expression of miR-204 in pediatric retinoblastoma and its effects on proliferation and apoptosis of cancer cells" Ding and Lu (2018) *Oncology Letters.*
- "Effects of LY294002 on the function of retinal endothelial cell in vitro" Di and Chen (2018) *Intl J Ophthalmology.*
- "Interaction of palmitate and LPS regulates cytokine expression and apoptosis through sphingolipids in human retinal microvascular endothelial cells" Lu et al (2018) *Experimental Eye Research.*
- "ASK1 induces retinal microvascular endothelial cell apoptosis through ER stress-associated pathway" Zou et al (2019) *Intl J Clinical Experimental Pathology*.

Calcium Release Assays

- "Role of endoplasmic reticulum stress in 12/15-lipoxygenase-induced retinal microvascular dysfunction in a mouse model of diabetic retinopathy" Elmasry et al (2018) *Diabetologia*.
- "The benzodiazepine anesthetic midazolam prevents hyperglycemia-induced microvascular leakage in the retinas of diabetic mice" Lee et al (2018) *FASEB*.

Cell Cycle

- "Serum miR-338-5p has potential for use as a tumor marker for retinoblastoma" Zhou and Li (2019) *Oncology Letters*.

Co-Culture

- "β-Adrenergic receptor agonists attenuate pericyte loss" Yun et al (2018) *FASEB*.
- "Human retinal endothelial cells and astrocytes cultured on 3-D scaffolds for ocular drug discovery and development" Beharry et al (2018) *Prostaglandins and Other Lipid Mediators*.
- "CD140b (PDGFRβ) signaling in adipose-derived stem cells mediates angiogenic behavior of retinal endothelial cells" Periasamy et al (2018) *Regenerative Engineering and Translational Medicine.*
- "Development and characterization of an in vitro system of the human retina using cultured cell lines " Churm et al (2019) *Clinical & Experimental Ophthalmology*.

Flow Cytometry

- "ASK1 induces retinal microvascular endothelial cell apoptosis through ER stress-associated pathway" Zou et al (2019) *Intl J Clinical Experimental Pathology*.
- "Serum miR-338-5p has potential for use as a tumor marker for retinoblastoma" Zhou and Li (2019) *Oncology Letters*.

Glycosylation Profiling

- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports.*

Immunocytochemistry

- "RF/6A Chorioretinal Cells Do Not Display Key Endothelial Phenotypes" Makin et al (2018) *IOVS*.
- "Cathepsin D plays a role in endothelial–pericyte interactions during alteration of the blood–retinal barrier in diabetic retinopathy" Monickaraj et al (2018) *FASEB*.
- "Profilin-1 mediates microvascular endothelial dysfunction in diabetic retinopathy through HIF-1α-dependent pathway" Ding et al (2018) *Intl J Clinical Experimental Pathology.*
- "Human retinal endothelial cells and astrocytes cultured on 3-D scaffolds for ocular drug discovery and development" Beharry et al (2018) *Prostaglandins and Other Lipid Mediators.*
- "β-Adrenergic receptor agonists attenuate pericyte loss" Yun et al (2018) *FASEB*.
- "SiRNA silencing of VEGF, IGFs, and their receptors in human retinal microvascular endothelial cells" Nicolau et al (2018) *American J Translational Research.*
- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports.*

Invasion/Migration Assays

- "Metformin suppresses retinal angiogenesis and inflammation in vitro and in vivo" Han et al (2019) *PLOS One.*
- "SiRNA silencing of VEGF, IGFs, and their receptors in human retinal microvascular endothelial cells" Nicolau et al (2018) *American J Translational Research.*
- "Tigecycline as a dual inhibitor of retinoblastoma and angiogenesis via inducing mitochondrial dysfunctions and oxidative damage" Xiong et al (2018) *Scientific Reports.*
- "YAP via interacting with STAT3 regulates VEGF-induced angiogenesis in human retinal microvascular endothelial cells" Zhu and Liu (2018) *Experimental Cell Research.*

- “Activation of the sweet taste receptor T1R3 by sucralose attenuates VEGF-induced vasculogenesis in a cell model of the retinal microvascular endothelium” Lizunkova et al (2018) *Graefe’s Archive for Clinical and Experimental Ophthalmology*.
- "Pro-angiogenic ginsenosides F1 and Rh1 inhibit vascular leakage by modulating NR4A1" Kang et al (2019) *Scientific Reports.*
- "MicroRNA-145 regulates pathological retinal angiogenesis by suppression of TMOD3" Liu et al (2019) *Nucleic Acids.*
- "Serum miR-338-5p has potential for use as a tumor marker for retinoblastoma" Zhou and Li (2019) *Oncology Letters*.
- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports.*

Mitochondrial Membrane Potential Measurements

- "*Artemesia annua* extract prevents glyoxal-induced cell injury in retinal microvascular endothelial cells during glaucoma" Jiang et al (2018) *Tropical J of Pharmaceutical Research.*
- “Tigecycline as a dual inhibitor of retinoblastoma and angiogenesis via inducing mitochondrial dysfunctions and oxidative damage” Xiong et al (2018) *Scientific Reports.*
- "Vascular protection of DPP-4 inhibitors in retinal endothelial cells in in vitro culture" Li et al (2018) *International Immunopharmacology.*
- "Improvement in diabetic retinopathy through protection against retinal apoptosis in spontaneously diabetic Torii rats mediated by ethanol extract of *Osteomeles schwerinae C.K. Schneid*" Kim, Kim, Kim et al (2019) *Nutrients*.

Permeability Assays (TEER and other methods)

- “Interaction of palmitate and LPS regulates cytokine expression and apoptosis through sphingolipids in human retinal microvascular endothelial cells” Lu et al (2018) *Experimental Eye Research.*
- "Profilin-1 mediates microvascular endothelial dysfunction in diabetic retinopathy through HIF-1α-dependent pathway" Ding et al (2018) *Intl J Clinical Experimental Pathology.*
- "The benzodiazepine anesthetic midazolam prevents hyperglycemia-induced microvascular leakage in the retinas of diabetic mice" Lee et al (2018) *FASEB*.
- “Critical role of endoplasmic reticulum stress in chronic endothelial activation–induced visual deficits in tie2-tumor necrosis factor mice” Lenin et al (2018) *J Cellular Biochemistry.*
- “β-Adrenergic receptor agonists attenuate pericyte loss” Yun et al (2018) *FASEB*.
- "Cathepsin D plays a role in endothelial–pericyte interactions during alteration of the blood–retinal barrier in diabetic retinopathy" Monickaraj et al (2018) *FASEB*.
- “Activation of the sweet taste receptor T1R3 by sucralose attenuates VEGF-induced vasculogenesis in a cell model of the retinal microvascular endothelium” Lizunkova et al (2018) *Graefe’s Archive for Clinical and Experimental Ophthalmology*.
- "Pro-angiogenic ginsenosides F1 and Rh1 inhibit vascular leakage by modulating NR4A1" Kang et al (2019) *Scientific Reports.*
- "Modulation of the p75 neurotrophin receptor using LM11A-31 prevents diabetes-induced retinal vascular permeability in mice via inhibition of inflammation and the RhoA kinase pathway" Elshaer et al (2019) *Diabetologia*.
- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports.*

Proliferation and Viability Assays (using MTT, LDH, BrdU)

- "Expression of miR-204 in pediatric retinoblastoma and its effects on proliferation and apoptosis of cancer cells" Ding and Lu (2018) *Oncology Letters.*
- "Effects of LY294002 on the function of retinal endothelial cells in vitro" Di and Chen (2018) *Intl J Ophthalmology.*
- "Pro-angiogenic ginsenosides F1 and Rh1 inhibit vascular leakage by modulating NR4A1" Kang et al (2019) *Scientific Reports.*
- "MicroRNA-145 regulates pathological retinal angiogenesis by suppression of TMOD3" Liu et al (2019) *Nucleic Acids.*
- "Enhancing retinal endothelial glycolysis by inhibiting UCP2 promotes physiologic retinal vascular development in a model of retinopathy of prematurity" Han et al (2019) *IOVS*.
- "YAP via interacting with STAT3 regulates VEGF-induced angiogenesis in human retinal microvascular endothelial cells" Zhu and Liu (2018) *Experimental Cell Research.*
- "β-Adrenergic receptor agonists attenuate pericyte loss" Yun et al (2018) *FASEB*.
- "Metformin suppresses retinal angiogenesis and inflammation in vitro and in vivo" Han et al (2018) *PLOS One.*
- "Activation of the sweet taste receptor T1R3 by sucralose attenuates VEGF-induced vasculogenesis in a cell model of the retinal microvascular endothelium" Lizunkova et al (2018) *Graefe's Archive for Clinical and Experimental Ophthalmology*.
- "*Artemesia annua* extract prevents glyoxal-induced cell injury in retinal microvascular endothelial cells during glaucoma" Jiang et al (2018) *Tropical J of Pharmaceutical Research*.
- "SiRNA silencing of VEGF, IGFs, and their receptors in human retinal microvascular endothelial cells" Nicolau et al (2018) *American J Translational Research.*
- "Interaction of palmitate and LPS regulates cytokine expression and apoptosis through sphingolipids in human retinal microvascular endothelial cells" Lu et al (2018) *Experimental Eye Research.*
- "Vascular protection of DPP-4 inhibitors in retinal endothelial cells in in vitro culture" Li et al (2018) *International Immunopharmacology.*
- "ASK1 induces retinal microvascular endothelial cell apoptosis through ER stress-associated pathway" Zou et al (2019) *Intl J Clinical Experimental Pathology*.
- "Serum miR-338-5p has potential for use as a tumor marker for retinoblastoma" Zhou and Li (2019) *Oncology Letters*.

RNAi Assays

- "miR-539-5p inhibits experimental choroidal neovascularization by targeting CXCR7" Feng et al (2018) *FASEB.*
- "β-Adrenergic receptor agonists attenuate pericyte loss" Yun et al (2018) *FASEB*.
- "Vitamin D3 protects against diabetic retinopathy by inhibiting high-glucose-induced activation of the ROS/TXNIP/NLRP3 inflammasome pathway" Lu et al (2018) *J Diabetes Research.*
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- "ASK1 induces retinal microvascular endothelial cell apoptosis through ER stress-associated pathway" Zou et al (2019) *Intl J Clinical Experimental Pathology*.
- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports.*

ROS Assays

- "Vitamin D3 protects against diabetic retinopathy by inhibiting high-glucose-induced activation of the ROS/TXNIP/NLRP3 inflammasome pathway" Lu et al (2018) *J Diabetes Research.*
- "Role of endoplasmic reticulum stress in 12/15-lipoxygenase-induced retinal microvascular dysfunction in a mouse model of diabetic retinopathy" Elmasry et al (2018) *Diabetologia*.
- "*Artemesia annua* extract prevents glyoxal-induced cell injury in retinal microvascular endothelial cells during glaucoma" Jiang et al (2018) *Tropical J of Pharmaceutical Research.*
- "Gastrodin inhibits high glucose-induced human retinal endothelial cell apoptosis by regulating the SIRT1/TLR4/NF-κBp65 signaling pathway" Zhang et al (2018) *Molecular Medicine Reports*.
- "Human retinal endothelial cells and astrocytes cultured on 3-D scaffolds for ocular drug discovery and development" Beharry et al (2018) *Prostaglandins and Other Lipid Mediators.*
- "The benzodiazepine anesthetic midazolam prevents hyperglycemia-induced microvascular leakage in the retinas of diabetic mice" Lee et al (2018) *FASEB*.
- "MicroRNA-145 attenuates high glucose-induced oxidative stress and inflammation in retinal endothelial cells through regulating TLR4/NF-κB signaling" Hui and Yin (2018) *Life Sciences*.
- "Mitochondrial fusion and maintenance of mitochondrial homeostasis in diabetic retinopathy" Duriasamy et al (2018) *IOVS*.
- "Tigecycline as a dual inhibitor of retinoblastoma and angiogenesis via inducing mitochondrial dysfunctions and oxidative damage" Xiong et al (2018) *Scientific Reports*.
- "Vascular protection of DPP-4 inhibitors in retinal endothelial cells in in vitro culture" Li et al (2018) *International Immunopharmacology*.
- "Improvement in diabetic retinopathy through protection against retinal apoptosis in spontaneously diabetic Torii rats mediated by ethanol extract of *Osteomeles schwerinae C.K. Schneid*" Kim, Kim, Kim et al (2019) *Nutrients*.

RT-PCR

- "miR-539-5p inhibits experimental choroidal neovascularization by targeting CXCR7" Feng et al (2018) *FASEB*.
- "β-Adrenergic receptor agonists attenuate pericyte loss" Yun et al (2018) *FASEB*.
- "Cathepsin D plays a role in endothelial–pericyte interactions during alteration of the blood–retinal barrier in diabetic retinopathy" Monickaraj et al (2018) *FASEB*.
- "Role of endoplasmic reticulum stress in 12/15-lipoxygenase-induced retinal microvascular dysfunction in a mouse model of diabetic retinopathy" Elmasry et al (2018) *Diabetologia*.
- "Profilin-1 mediates microvascular endothelial dysfunction in diabetic retinopathy through HIF-1α-dependent pathway" Ding et al (2018) *Intl J Clinical Experimental Pathology.*
- "Characterization of site-specific phosphorylation of NF-κB p65 in retinal cells in response to high glucose and cytokine polarization" Shi and Berger (2018) *Mediators of Inflammation*.
- "Cross-inhibition of Norrin and TGF-β signaling modulates development of retinal and choroidal vasculature" Seitz et al (2018) *Retinal Cell Biology*.
- "miR15a regulates NLRP3 inflammasome proteins in the retinal vasculature" Curtiss et al (2018) *Experimental Eye Research.*
- "SiRNA silencing of VEGF, IGFs, and their receptors in human retinal microvascular endothelial cells" Nicolau et al (2018) *American J Translational Research*.
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- "Expression of miR-204 in pediatric retinoblastoma and its effects on proliferation and apoptosis of cancer cells" Ding and Lu (2018) *Oncology Letters*.
- "miR-215 controls proliferation, invasion, and apoptosis of human retinoblastoma cells by regulating RB1 expression" Zhang et al (2018) *Intl J Experimental Clinical Medicine.*
- "Effects of LY294002 on the function of retinal endothelial cells in vitro" Di and Chen (2018) *Intl J Ophthalmology.*
- "Activation of the sweet taste receptor T1R3 by sucralose attenuates VEGF-induced vasculogenesis in a cell model of the retinal microvascular endothelium" Lizunkova et al (2018) *Graefe's Archive for Clinical and Experimental Ophthalmology*.
- "Interaction of palmitate and LPS regulates cytokine expression and apoptosis through sphingolipids in human retinal microvascular endothelial cells" Lu et al (2018) *Experimental Eye Research.*
- "3-Hydroxypyruvate destabilizes hypoxia inducible factor and induces angiostasis" Singh et al (2018) *IOVS*.
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- "Serum miR-338-5p has potential for use as a tumor marker for retinoblastoma" Zhou and Li (2019) *Oncology Letters*.
- "Development and characterization of an in vitro system of the human retina using cultured cell lines " Churm et al (2019) *Clinical & Experimental Ophthalmology*
- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports.*

Subcellular Fractionation

- "GRP78 translocation to the cell surface and O-GlcNAcylation of VE-Cadherin contribute to ER stress-mediated endothelial permeability" Lenin et al (2019) *Scientific Reports*.

Transient Transfection

- "miR-539-5p inhibits experimental choroidal neovascularization by targeting CXCR7" Feng et al (2018) *FASEB*.
- "Vitamin D3 Protects against diabetic retinopathy by inhibiting high-glucose-induced activation of the ROS/TXNIP/NLRP3 inflammasome pathway" Lu et al (2018) *J Diabetes Research.*
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- "Epac1 deacetylates HMGB1 through increased IGFBP-3 and SIRT1 levels in the retinal vasculature" Jiang et al (2018) *Molecular Vision.*
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Tube Formation

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- "MicroRNA-145 regulates pathological retinal angiogenesis by suppression of TMOD3" Liu et al (2019) *Nucleic Acids*.

Western Blot and Immunoprecipitation

- “β-Adrenergic receptor agonists attenuate pericyte loss” Yun et al (2018) *FASEB*.
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