

Hypoxia-Inducible Factor (HIF)/Vascular Endothelial Growth Factor (VEGF) Signaling in the Retina.

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Public Summary:

Over a span of two decades, it has become increasingly clear that vascular endothelial growth factor (VEGF) plays an important role in the pathogenesis of retinal diseases including age-related macular degeneration (AMD) and diabetic retinopathy (DR). Based on these observations, anti-VEGF therapies are being developed and approved for clinical use in the treatment of neovascular eye diseases. Hypoxia-inducible factors (HIFs) are transcriptional factors that are stabilized and activated under hypoxic conditions and induce expression of gene products, including VEGF, that are required for cell survival under hypoxia. Here we discuss recent findings from our lab and others that define roles of the HIF-VEGF axis in the retina.

Scientific Abstract:

Over a span of two decades, it has become increasingly clear that vascular endothelial growth factor (VEGF) plays an important role in the pathogenesis of retinal diseases including age-related macular degeneration (AMD) and diabetic retinopathy (DR). Based on these observations, anti-VEGF therapies are being developed and approved for clinical use in the treatment of neovascular eye diseases. Hypoxia-inducible factors (HIFs) are transcriptional factors that are stabilized and activated under hypoxic conditions and induce expression of gene products, including VEGF, that are required for cell survival under hypoxia. Here we discuss recent findings from our lab and others that define roles of the HIF-VEGF axis in the retina.

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