Cite this as: Kun ZHAO, Yaping JIANG, Wen HUANG, Yukang MAO, Yihui CHEN, Peng LI, Chuanxi YANG, 2025. Alamandine inhibits pathological retinal neovascularization by targeting the MrgD-mediated HIF-1α/VEGF pathway. *Journal of Zhejiang University-SCIENCE B*, 26(10):1015-1036. https://doi.org/10.1631/jzus.B2500154

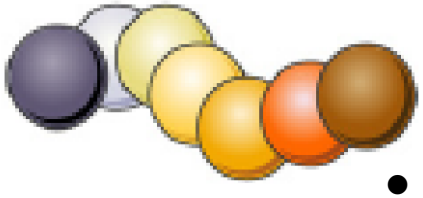
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Alamandine inhibits pathological retinal neovascularization by targeting the MrgD-mediated HIF-1α/VEGF pathway

Key words: Alamandine; Pathological neovascularization; Retinopathy of prematurity (ROP); Oxygen-induced retinopathy (OIR); Mas-related G protein-coupled receptor D (MrgD); Vascular endothelial growth factor (VEGF)

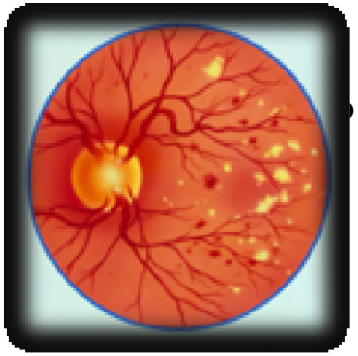
Research Summary

This article mainly focused on the key role of Alamandine in improving oxygen-induced retinopathy (OIR)-induced retinal neovascularization and the underlying molecular mechanisms:



Alamandine

- **Alamandine attenuated hypoxia-induced pathological angiogenesis in vitro；**
- **Alamandine improved hypoxia-induced retinal vascular barrier dysfunction with restored glial cells network and alleviated inflammation response.**
- **Alamandine inhibited retinal pathological neovascularization by inhibiting the HIF-1α/VEGF pathway via MrgD ；**



Retinal neovascularization

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Innovation points

A series of comprehensive figures were generated to exhibit the protective effects of Alamandine on mitigating oxygen-induced retinopathy (OIR)-induced retinal neovascularization.

Figure 1-2| **Analysis of singlecell transcriptomic data in human and mice.**

Figure 3| **LC–MS-mediated metabolomics analysis of OIR mouse model.**

Figure 4| **Effects of Alamandine on VEGF-induced angiogenesis in HRMECs.**

Figure 5| **Effects of Alamandine on hypoxia-induced HIF-1α/VEGF pathway activation and apoptosis in HRMECs.**

Figure 6| **Effects of Alamandine on pathological neovascularization in the retinas of OIR mouse.**

Figure 7| **Effects of Alamandine on glial cells dysfunction and inflammation in the retinas of OIR mouse.**

Figure 8| **Role of MrgD in the protective effects of Alamandine against VEGF-induced angiogenesis in vivo and in vitro.**

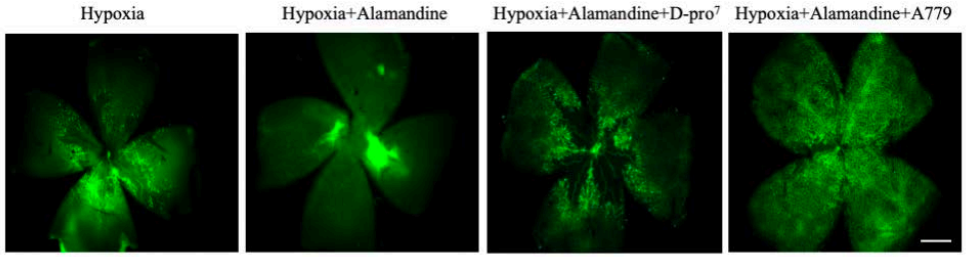


Figure 8

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