

论著

缺氧对高原藏族、汉族人脐静脉内皮细胞VEGF、iNOS和eNOS mRNA表达影响的比较

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摘要 目的: 比较缺氧对世居高原藏族人和移居高原汉族人脐静脉内皮细胞(UVECs)血管内皮生长因子(VEGF)、诱导型一氧化氮合酶(iNOS)和内皮型一氧化氮合酶(eNOS) mRNA表达的影响。方法: 分离脐静脉内皮细胞, 体外原代培养, 分为①世居高原藏族组和②移居高原汉族组两组, 每组包括常氧对照和缺氧(0.5% O₂) 2 h、4 h、12 h和24 h时点。分离细胞总RNA, 分别用RT-PCR检测VEGF、iNOS和eNOS mRNA表达。结果: 缺氧可以诱导世居高原藏族人和移居高原汉族人UVECs表达iNOS和VEGF mRNA表达增加, 同时抑制eNOS mRNA表达。移居高原汉族人UVECs表达上述基因mRNA的特点与世居高原藏族人相似。结论: 缺氧时世居高原藏族人和移居高原汉族人UVECs VEGF、iNOS和eNOS mRNA表达特点与移居高原汉族人相似, 提示上述基因表达的改变可能是缺氧反应机制的共同过程。

关键词 [高海拔](#); [西藏](#); [缺氧](#); [内皮生长因子](#); [一氧化氮合酶](#)

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Effects of hypoxia on expression of VEGF, iNOS and eNOS mRNA in human umbilical vein endothelial cells from Tibetan and Han

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Abstract

AIM: To compare the effects of hypoxia on expression of vascular endothelial growth factor (VEGF), iNOS and eNOS mRNA in cultured umbilical vein endothelial cells (UVECs) obtained from Tibetan and Han. METHODS: UVECs were obtained from native Tibetan and immigrant Han, respectively and cultured under hypoxia conditions (0.5% oxygen) for 2 h, 4 h, 12 h, and 24 h and normoxic conditions. VEGF, iNOS and eNOS mRNAs were detected with methods of RT-PCT. RESULTS: VEGF and iNOS mRNAs were up-regulated while eNOS mRNA depressed by hypoxia similarly in Tibetan and Han UVECs. CONCLUSION: Our results suggest that the changes of VEGF, iNOS and eNOS mRNA expression are common pathways in the mechanisms of hypoxic responses.

Key words [Altitude](#) [Tibet](#) [Anoxia](#) [Endothelial growth factors](#) [Nitric oxide-synthase](#)

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