

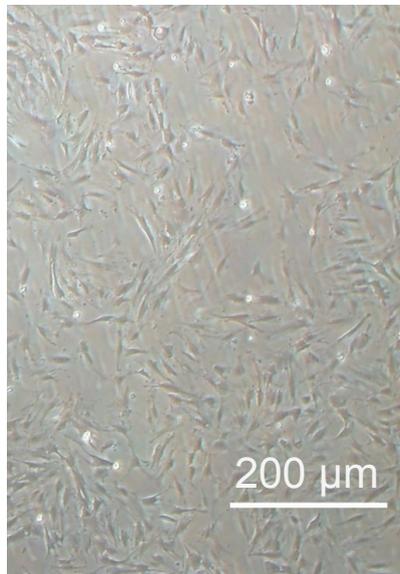
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Analysis of cardiovascular disease-related NF- κ B-regulated genes and microRNAs in TNF α -treated primary mouse vascular endothelial cells

Key words: Cardiovascular disease, Nuclear factor- κ B (NF- κ B), MicroRNA, Endothelial cell

Research Summary

Activated NF- κ B plays an vital role in the development of Cardiovascular disease (CVD) through its regulated genes and miRNAs. In this study, we have identified CVD-related NF- κ B-regulated genes and miRNAs using primary mouse vascular endothelial cells (pMVECs).



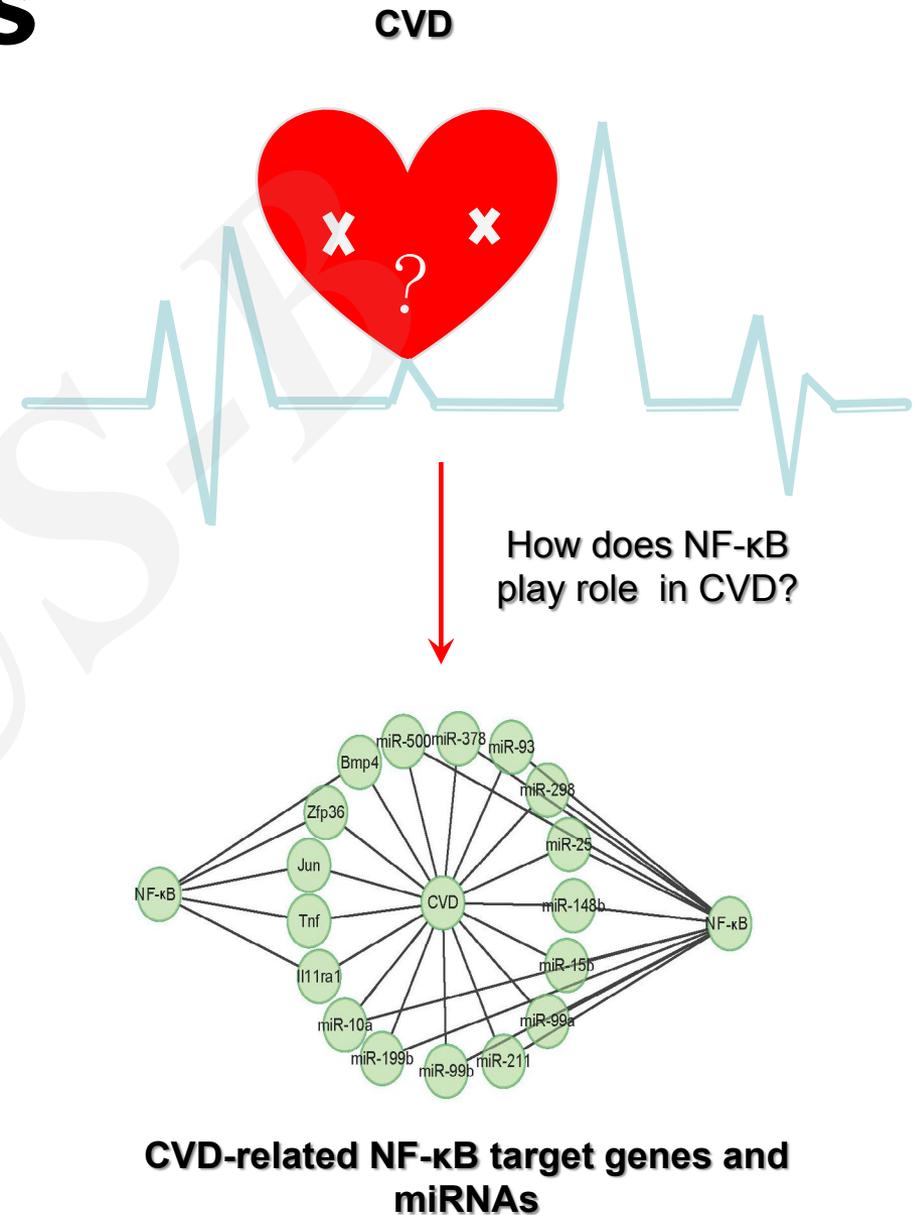
pMVECs

TNF α
→
Rela siRNA

**CVD-related NF- κ B-
regulated genes and
miRNAs**

Innovation points

- **Introduction** of endothelial dysfunction in the development of CVD events.
- **Summary** of NF-κB target genes and miRNAs which play roles in the progression of CVD.
- **Emphasis** of importance of identification of CVD-related NF-κB target genes and miRNAs .



Innovation points

A series of comprehensive pictures and tables were generated to summarize the knowledge about CVD-related NF- κ B target genes and miRNAs.

Figure 1 | Quality evaluation of cultured pMVECs

Figure 2 | Expressions of NF- κ B (*RelA*), *Cxcl10* and *Vcam1* in TNF α -treated pMVECs

Figure 3 | NF- κ B-regulated genes in TNF α -treated pMVECs

Figure 4 | Verification of NF- κ B-regulated genes in TNF α -treated pMVECs

Table 1 | GO analysis of NF- κ B-regulated genes by the DAVID on-line server

Table 2 | KEGG pathway analysis of NF- κ B-regulated genes by the DAVID on-line server

Figure 5 | NF- κ B-regulated miRNAs in TNF α -treated pMVECs.

Figure 6 | The nominated targets of NF- κ B-regulated miRNAs and their constructed regulatory network

Table 3 | Expression changes of NF- κ B-regulated miRNAs and their predicted target genes in pMVECs

Table 4 | The CVDs-related NF- κ B-regulated genes in TNF α -treated pMVECs

Table 5 | The CVDs-related NF- κ B-regulated miRNAs in TNF α -treated pMVECs

Figure 7 | Involvement of NF- κ B in the process of CVD via its regulated genes and miRNAs