The angiopoietin receptor Tie2 is atheroprotective in arterial endothelium

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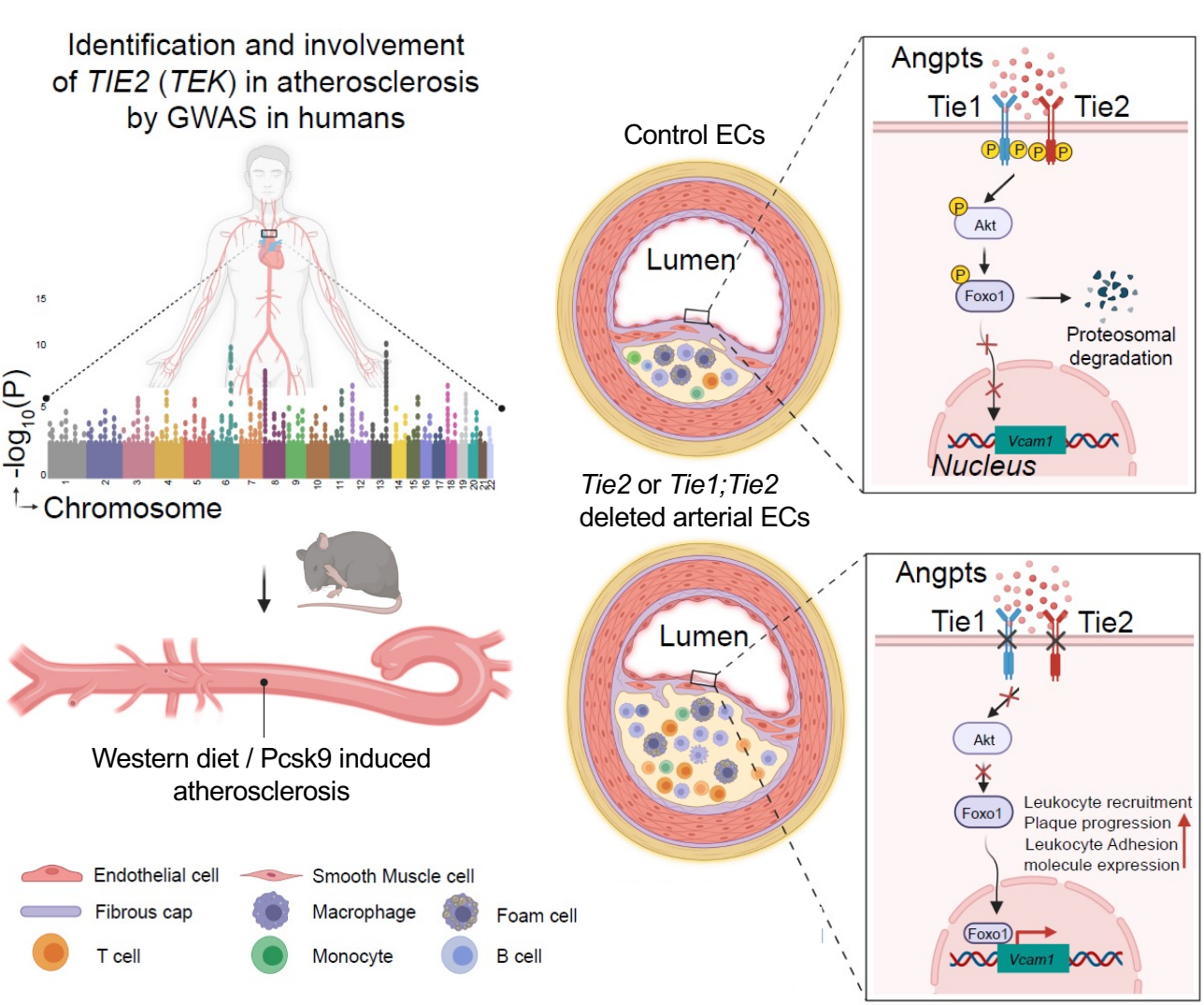

Key findings:

- Intronic variant of *TIE2*, rs1322052, is associated with increased gene expression and decreased coronary artery disease risk.
- Knockout of *Tie2* receptor in arterial endothelial cells promotes atherosclerosis by increasing immune cell infiltration, in part via modulation of Foxo1 subcellular localization and increased expression of *Vcam1*.
- Deletion of endothelial *Tie1* reduces vascular inflammation, whereas knockout of both *Tie2* and *Tie1* produces a phenotype similar to *Tie2*, indicating that *Tie2* dominates over *Tie1* function in atherosclerosis.
- *Tie2* expression was also detected in a subset of mouse aortic fibroblasts, in which *Tie2* silencing upregulated the expression of genes encoding inflammatory markers, such as *Il6* and *Ccl5*.
- Increased *Tie2* signaling could be useful for attenuation of vascular inflammation and potential therapeutic treatment of atherosclerosis.