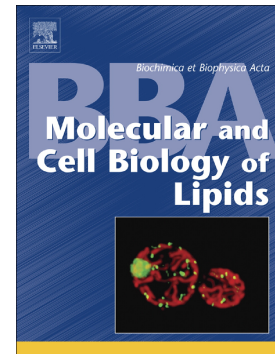


## Accepted Manuscript

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# Regulatory effects of simvastatin and apoJ on APP processing and amyloid- $\beta$ clearance in blood-brain barrier endothelial cells

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## Highlights:

- Simvastatin shifts APP processing towards the non-amyloidogenic pathway in pBCEC
- Inhibition of cholesterol synthesis by simvastatin up-regulates apoJ in pBCEC
- Both, simvastatin and apoJ increase expression of APP and reduce A $\beta$  uptake in pBCEC
- Increased A $\beta$  and simvastatin induce LRP1 and apoJ levels *in vitro* and *in vivo*
- Thereby clearance of A $\beta$  across the blood-brain barrier is facilitated

**Keywords:** Alzheimer disease, amyloid-beta (A $\beta$ ), endothelium, cholesterol metabolism, blood-brain barrier, clusterin/apoJ

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