

# Simvastatin

The [neuroprotection](#) effects of simvastatin on the pre-existing [hypercholesterolemia](#) during [TBI](#) in rats may be related to its anti-neuroinflammatory effects but not to its cholesterol-lowering effects <sup>1)</sup>.

---

A [meta-analysis](#) <sup>2)</sup> and multicenter randomized phase 3 trial of [simvastatin](#) <sup>3)</sup> found no clinical benefit for [aneurysmal subarachnoid hemorrhage](#).

---

It is a [statin](#) that could attenuate [cerebral vascular endothelial inflammatory response](#) in a rat [traumatic brain injury](#).

Simvastatin combined with an antioxidant could provide [neuroprotection](#) and it may be attributed to a dampening of [cerebral vascular endothelial inflammatory response](#). <sup>4)</sup>.

## References

<sup>1)</sup>

Chong AJ, Lim SW, Lee YL, Chio CC, Chang CH, Kuo JR, Wang CC. The Neuroprotective Effects of Simvastatin on High Cholesterol Following Traumatic Brain Injury in Rats. *World Neurosurg.* 2019 Dec;132:e99-e108. doi: 10.1016/j.wneu.2019.08.250. Epub 2019 Sep 10. PubMed PMID: 31518751.

<sup>2)</sup>

Vergouwen MD, de Haan RJ, Vermeulen M, et al. Effect of statin treatment on vasospasm, delayed cerebral ischemia, and functional outcome in patients with aneurysmal subarachnoid hemorrhage: a systematic review and meta-analysis update. *Stroke.* 2010; 41:e47-e52

<sup>3)</sup>  
Kirkpatrick PJ, Turner CL, Smith C, et al. Simvastatin in aneurysmal subarachnoid hemorrhage (STASH): a multicentre randomized phase 3 trial. *Lancet Neurol.* 2014; 13:666-675

<sup>4)</sup>

Wang KW, Wang HK, Chen HJ, Liliang PC, Liang CL, Tsai YD, Cho CL, Lu K. Simvastatin combined with antioxidant attenuates the cerebral vascular endothelial inflammatory response in a rat traumatic brain injury. *Biomed Res Int.* 2014;2014:910260. doi: 10.1155/2014/910260. Epub 2014 Jun 11. PubMed PMID: 25013810.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**



Permanent link:

<https://neurosurgerywiki.com/wiki/doku.php?id=simvastatin>

Last update: **2024/06/07 02:59**