

## Endothelial cells are key-players in pilocarpine-induced epileptogenesis

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In recent years, the concept of the **neurovascular unit (NVU)** has emerged as a new paradigm for investigating both physiology and pathology in the CNS. This concept proposes that a purely *neurocentric* focus is not sufficient, and emphasizes that all cell types in the brain including **neuronal**, **glial** and **vascular components** (endothelial cells, blood cells, including immunity cells) must be examined in an integrated context. Cell–cell signaling and coupling between these different compartments thus form the basis for normal function (Lok et al. 2007). We tested the hypothesis that disordered signaling and perturbed coupling of these different components can be the basis for epileptogenesis in the pilocarpine model of epilepsy. We thus determined that pilocarpine can act on endothelial cells via receptors, comparing the response of the same stimulation in neurons as well.

### References

[1] Lok et al. (2007) *Neurochem Res* 32:2032–2045, DOI 10.1007/s11064-007-9342-9

### Keywords

Seizures, epilepsy, Bend3, BMVECs, neurovascular unit, endothelial cells