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Dentate Gyrus

Severn B. Churn
Neurology, Virginia Commonwealth University,
Richmond, VA, USA

Synonyms

[Gyrus dentata](#)

Definition

One of the two stratified folds of gray matter comprising the hippocampus, the dentate gyrus, is situated between the major cortical connection to the hippocampus, the entorhinal cortex, and the other hippocampal regions CA1, CA2, and CA3. Granule cells of the dentate granular layer receive one of the two major entorhinal outputs, the

“perforant pathway,” and their excitatory axons (“mossy fibers”) relay mostly to interneurons but also to CA3 and possibly CA2. Neural progenitor cells of the subgranular layer enable neurogenesis, a perpetual process believed to support learning and memory, be enhanced by exercise, and negatively influenced by stress, depression, and aging.

Cross-References

► [Hippocampus](#)

References and Readings

Scharfman, H. E. (Ed.). (2007). *The dentate gyrus: A comprehensive guide to structure, function, and clinical implications: Vol. 163. Progress in brain research*. Amsterdam: Springer.