

## The Cerebellar Dentate Nucleus

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### Abstract

The dentate nucleus is the largest and phylogenetically youngest nucleus of the cerebellum. It has a tooth-like shape and is located within the deep white matter of each cerebellar hemisphere. The dentate nucleus contains two main morphological types of neurons, large polyhedral ones which are either Glutamnergic or Glycinergic, and small round shaped one which are GABAergic. The dentate nucleus can be divided into different functional areas, which are related to different parts of the cerebellar cortex and the cerebral hemispheres. Although it was thought that the dentate nucleus was solely related to the development and integration of motor tasks, recent evidence gave new insights into its function, and it is now widely accepted that the dentate nucleus is additionally related to the learning procedure, to short-term memory and to high cognitive functions in general.

**Key words:** Cerebellar Dentate Nucleus, GABAergic, High cognitive functions.