Deep cerebellar nuclei

The cerebellum has four deep cerebellar nuclei embedded in the white matter in its center.

These nuclei receive inhibitory (GABAergic) inputs from Purkinje cells in the cerebellar cortex and excitatory (glutamatergic) inputs from mossy fiber and climbing fiber pathways. Most output fibers of the cerebellum originate from these nuclei. One exception is that fibers from the flocculonodular lobe synapse directly on vestibular nuclei without first passing through the deep cerebellar nuclei. The vestibular nuclei in the brainstem are analogous structures to the deep nuclei, since they receive both mossy fiber and Purkinje cell inputs.