

#DIBS BY NEXTILLO

DAILY INFORMATION BULLETIN SERVICE

CEREBRAL CORTEX



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CEREBRAL CORTEX

The cerebral cortex is a sheet of neural tissue that is outermost to the cerebrum of the brain. It has up to six layers of nerve cells. It is covered by the meninges and often referred to as grey matter. The cortex is grey because nerves in this area lack the insulation (myelin) that makes most other parts of the brain appear to be white. The convolutions consist of grooves known as sulci that separate the more elevated regions called gyri. The cortex has been divided into four lobes using certain consistently present sulci as landmarks.



LAMINAR ORGANIZATION IN CORTEX

- **Microscopically, the following horizontal organizations of cellular layers (Laminae) are observed:**
- **Molecular (Plexiform) layer I:** consists of apical dendritic tufts of the pyramidal neurons, horizontally organized axons, Cajal-Retzius cells and glial cells.
- **External granular layer II:** consist of mainly granular cells and small pyramidal cells.
- **External pyramidal layer III:** consists of small and medium-sized pyramidal cells. > Layer III can be divided into most superficial IIIa, intermediate layer IIIb and deep layer IIIc.> Horizontally running myelinated fibers makes the band of Baillarger stripe that can be appreciated between layer IIIc and IV in some isocortical regions.
- **Internal granular layer IV:** contains small round granular cells (spiny stellate cells, spiny interneurons) and small pyramidal cells.
- **Internal pyramidal layer V:** contains the largest pyramidal cells.
- **Multiform (Polymorphous) layer VI:** Excitatory cells like spiny stellate cells, pyramidal cells, inverted pyramidal neurons, bipolar/fusiform cells, and odd-shaped cells



NEOCORTEX

- ***The neocortex is the newest part of the cerebral cortex to evolve.***
- ***In humans, 90% of the cerebral cortex is neocortex.***
- ***The neocortex is the largest and most powerful area of the human brain.***
- ***All of its important cognitive functions are made possible by the convergence of two distinct streams of information: a "bottom-up" stream, which represents signals from the environment.***



MCQ

QUESTION

Motor Nucleus originate from which of the following layer of cerebrum?

A. 5th

B. 6th

C. 3rd

D. 4th

• Ans-5th