

# Development of the olfactory apparatus

The first sign of the development of the olfactory apparatus is the development of the olfactory placode.

## Olfactory placode

The olfactory placode is formed by a thickened layer of ectoderm that appears on the frontonasal process. Its development and thus the development of the entire system is induced by the ventral part of the telencephala.

## Olfactory epithelium

Receptor cells of the olfactory epithelium are specialized chemoreceptors. These are primary sensory cells, i.e. modified neurons. Their axons run to the olfactory bulb. During the ossification of the olfactory bone, the lamina cribrosa ossis ethmoidalis is formed **around** these axons, which have long been formed there. These axons are called **fila olfactoria**', together they form the 1st cranial nerve - **nervus olfactorius** (olfactory nerve). Its connection to the neurons of the bulb occurs around the 7th week.

## Bulbus olfactorius

It emerges from the anterior part of the telencephalon. Mitral neurons of the bulb - secondary neurons olfactory pathways. They receive afferent connections from the n. olfactorius and send axons further to the telencephalon. Together, these axons form the **tractus olfactorius**'.

During the development of the telencephalon, the bulb elongates conspicuously. This is due to the expansion of the neurocrania, thereby increasing the distance between the bulbus olfactorium and the **trigonum olfactorium**', where most fibers of the tr. olfactorius directs.

## Links

### Related Articles

- Brain Development
- Sensory epithelium

### References

- SADLER, T.W. *Langman's Medical Embryology*. 10. edition. 2006. 385 pp. ISBN 978-0-7817-9485-5.
- MOORE, Keith L – PERSAUD, T.V.N. *The Birth of Man : Embryology with a clinical focus*. 1. edition. 2000. 564 pp. ISBN 80-85866-94-3.