

Pathway of taste

Receptors

Receptors for taste sensation are the type III cells of the taste buds.

First order neuron

First order neurons of taste pathway are in the nuclei of three different cranial nerves, situated in the medulla oblongata. Dendrites of the neurons are distributed to the taste buds. After arising from the taste buds, the fibers reach the cranial nerve nuclei by running along the following nerves;

- a) Chorda tympani fibers of facial nerve (cranial nerve IX), which run from anterior two third of tongue
- b) Glossopharyngeal nerve fibers (cranial nerve VII), which run from the circumvallate papillae on the back of the tongue and from other posterior regions of the mouth and throat
- c) Vagal fibers (cranial nerve X), which run from taste buds in other regions.

Axons from first order neurons in the nuclei of these nerves run together in medulla oblongata and terminate in the nucleus of tractus solitarius.

Second order neurons

Second order neurons are in the nucleus of tractus solitarius. Axons of second order neurons run through medial lemniscus and terminate in the posteroventral nucleus of thalamus.

Third order neuron

Third order neuron are in the posteroventral nucleus of thalamus. Axons from third order neuron project into the parietal lobe of the cerebral cortex, Which is the final destination where taste is perceived.

