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THE PATHWAYS INVOLVED IN **TASTE.**

The tongue contains small bumps called papillae., within or near which taste buds are situated are situated. In the tongue’s taste buds,the taste receptors receive sensory input via two important mechanisms – depolarization and neurotransmitter release. Intake of salt foods leads more sodium ions to enter the receptor, causing the said mechanisms. The same is true with the intake of sour foods (hydrogen ions) and sweet foods (sugar molecules), both of which result to the closing of K+ channels upon their entry.

From the axons of the taste receptors, the sensory information is transferred to the three taste pathways via the branches of cranial nerves VII, IX, and X. The chords tympani of CN VII (facial nerve) carries the taste sensory input from the tongue’s anterior two-thirds. Then, the rest of the taste sensations from the throat, palate and posterior tongue are transmitted by the branches of CN IX ( glosso pharyngeal nerve) and the CN X ( vagus nerve). From these cranial nerves, taste sensory input travels through the nerve fiber synpnapses to the solitary tract, the ventral posteromedialthalamic nuclei, and the thalamus. In these three locations, there are clustered neurons which respond to the same taste (sweet, sour, salty and bitter). The thalamus relays the information to the primary gustatory cortex located in the somatosensory cortex. The primary gustatory cortex is where the perception of a particular taste is processed.