SENSE OF TASTE
(СМАК ЯК СЕНСОРНА СИСТЕМА)

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The *gustatory system* or *sense of taste* is the sensory system that is partially responsible for the perception of taste. Taste is the perception produced or stimulated when a substance in the mouth reacts chemically with taste receptor cells located on taste buds in the oral cavity, mostly on the tongue. Taste, along with smell and trigeminal nerve stimulation, determines flavors of food and other substances.

The gustatory cortex is responsible for the perception of taste. Taste receptors in the mouth sense the five taste modalities: sweetness, sourness, saltiness, bitterness, and savoriness.

Bitter foods are generally found unpleasant, while sour, salty, sweet, and umami tasting foods generally provide a pleasurable sensation. The five specific tastes received by taste receptors are saltiness, sweetness, bitterness, sourness, and *savoriness*.

Sour and salt tastes can be pleasant in small quantities, but in larger quantities become more and more unpleasant to taste. For sour taste this is presumably because the sour taste can signal under-ripe fruit, rotten meat, and other spoiled foods, which can be dangerous to the body because of bacteria which grow in such media.

Sweet taste signals the presence of carbohydrates in solution. Since carbohydrates have a very high calorie count, they are desirable to the human body, which evolved to seek out the highest calorie intake foods. They are used as direct energy (sugars) and storage of energy (glycogen).

The *savory* taste signals the presence of the amino acid L-glutamate, triggers a pleasurable response and thus encourages the intake of peptides and proteins.

Sour taste is detected by a small subset of cells that are distributed across all taste buds in the tongue. Sour taste cells can be identified by expression of the protein. The most common foods with natural sourness are fruits, such as lemon, grape, orange, tamarind, and bitter melon.

There are five different types of taste. These receptors can detect which are recognized: salt, sweet, sour, bitter, and umami. Each type of receptor has a different manner of sensory transduction.