

Saliva Encyclopedia Article

Saliva

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Saliva

Saliva is the principal secretion of the mouth and contains **enzymes** that play an important role in **digestion**. Saliva also lubricates the mouth and upper digestive tract. Contact with saliva assures that food is softer and moister, and therefore, more able to be swallowed and less irritating to the esophageal mucosa (the lining of the esophagus). The secretion of saliva is under the control of the **autonomic nervous system**. Salivation controlled by parasympathetic stimulation from the **brain**, was demonstrated first in dogs by Russian physiologist **Ivan Petrovich Pavlov** (1849-1936).

In contrast to the acidic contents of the stomach, saliva is alkaline, and provides a protective coating from acid reflux from the stomach. Because saliva contains an antibacterial lysozyme that lyses **bacteria** (ruptures bacterial cells), adequate amounts of saliva in the mouth also reduce the amount of bacteria in the oral cavity.

Saliva is secreted by a number of glands including the salivary glands that include mucous glands, parotid, submaxillary (mandibular), and sublingual glands. More specifically, saliva is secreted from specialized clusters of cells termed acini.

The formation of saliva is a multi-step process. Initially formed of an aqueous solution (water based solution) of **electrolytes**, proteins (mostly enzymes), and **mucus**, saliva undergoes several chemical changes before it is release from the glandular collecting ducts into the oral cavity. The sodium content is reduced and potassium levels increase along with the addition of bicarbonate ions that make the saliva alkaline.

Depending on their particular histophysiology, the paired salivary glands each produce subtle variations on the compositional mixture of the components of saliva. The differences depend on the amount of serous or mucosal cells present in each gland.

Adequate amounts of saliva are also needed to facilitate **taste** sensations because moist substances provide greater amounts of soluble molecules that can bind to taste receptors.