

The sculptor Antonio Canova created this marble statue of Hebe, the Greek goddess of youth, in 1796. According to Greek myth, a diet of nectar and ambrosia gave the goddess immortality

# FOREVER YOUNG

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In the future, will we be able to add a few months or even years to our lives by simply changing our diets? That may well be possible. The search for effective anti-aging dietary supplements has revealed some promising candidates

**S**cientists have long searched for foods that can enable us to lead longer and more active lives. Evonik too has established its dietary supplement MEDOX® in a market that aims to provide health and well-being—and it intends to explore this field in even greater depth in the future. The research focusing on the class of drugs known as senolytics is taking especially promising approaches. The substances in this group enable damaged cells in the body to destroy themselves. That prevents the body from accumulating substances that trigger aging processes.

#### THE VILLAGE OF CENTENARIANS

The longing for eternal life is as old as humankind. The epic of Gilgamesh, which dates back to the second millennium BC, is one of the oldest written records of the human art of poetry. In the epic, King Gilgamesh sets out to find a plant that wards off death. Roughly 1,200 years later, Homer sang of ambrosia, a food that granted immortality and was reserved for the gods of the ancient world. And in the third century BC the first emperor of China, Qin Shi Huang, dispatched his court magician, Xu Fu, to find an herb that prevents aging.

All of these efforts to gain eternal life have ended in failure, but they have yielded valuable insights. In 1878 the Englishman John Biddulph discovered the remote kingdom of the Hunza in the Himalayan mountains, many of whose inhabitants were 100 years old or even older. They owed their longevity not to divine ambrosia but to a mundane diet of dried fruits and nuts. After the Austrian physician Maximilian Bircher-Benner heard of this diet, he invented Bircher müsli.

This was the first time that longevity was linked to a special diet. Additional proof of this connection was discovered about a century later. In the southern Chinese provinces of Guizhou, Sichuan, and Guangxi, scientists observed an unusually high proportion of people over 100 years old. Their investigations revealed that jiaogulan, a plant used by local people to make an herbal tea, was responsible for this longevity. Many positive effects are attributed to this “immortality herb,” a member of the Cucurbitaceae (cucumber or gourd) family. It is reputed to reduce stress, decrease levels of blood sugar, and strengthen the heart and the immune system.

#### TARGETED CELLULAR DEATH

Thanks to discoveries like these, today scientists are convinced that diet has a key impact on aging processes. Researchers all over the world are looking for foods that can prolong our lives. For example, researchers at the University of Minnesota are investigating the effects of flavonoids, natural substances that are largely responsible for the colors of flowers and play an important role in the metabolism of many plants. In the course of their

research, the scientists discovered fisetin, a yellowish substance that can be found in the Eurasian smoketree as well as in apples, grapes, cucumbers, and strawberries. Scientists suspect that fisetin is a potent senolytic that induces damaged cells to commit suicide—cells that would otherwise cause inflammation and trigger aging processes.

There are other promising candidate senolytics besides fisetin—for example quercetin, another flavonoid that can be extracted from apples, onions, and garlic. Also promising are the alkaloids piperlongumine, which is found in a pepper plant from Southeast Asia, and berberine, a constituent of barberries. None of these active ingredients will bring us immortality. However, it seems that they could enable us to live longer and healthier lives. That’s a good reason for the Foresight team at Creavis to investigate these substances. For example, the incubation cluster “Prevention & Wellbeing” at Creavis aims to develop new health-promoting products. —



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