

"Long before it's in the papers"

[RETURN TO THE WORLD SCIENCE HOME PAGE](#)

## Remote community evades scourges of aging

Feb. 16, 2011  
Courtesy of the University of Southern California  
and World Science staff

A remote Ecuadorean community of people who share a dwarfism gene also almost never experience cancer, diabetes or strokes, common scourges of aging, a study has found.

Indeed, the researchers discovered, it seems the only reason this population doesn't enjoy unusually long lifespans is that it suffers a high rate of accidents and substance abuse. That aside, the scientists added, the mutation may offer clues to treatments or diets that could protect the rest of us from aging-related diseases.

The people "appear to be relatively happy and normal," yet "there are a lot of strange causes of death, including many that are alcohol-related," noted cell biologist Valter Longo of the University of Southern California, one of the researchers. The 22-year study nonetheless suggests growth-stunting mutations also may stunt two of humanity's worst diseases, he added.

The researchers, led by Longo and Ecuadorian endocrinologist Jaime Guevara-Aguirre, followed a remote community on the slopes of the Andes mountains. Many of its members have Laron syndrome, a deficiency in a gene that prevents the body from using growth hormone. The scientists followed about 100 such people and 1,600 relatives of normal height.

Over 22 years, the team documented no cases of diabetes and one non-lethal case of cancer in Laron's subjects. The findings are published in the research journal *Science Translational Medicine*. Among relatives living in the same towns during the same time period, 5 percent were diagnosed with diabetes and 17 percent with cancer.

Longo and his team concluded that growth hormone activity has many downsides, at least for adults past their growing years. "The growth hormone receptor-deficient people don't get two of the major diseases of aging. They also have a very low incidence of stroke, but the number of deaths from stroke is too small to determine whether it's significant," Longo said.

He added that, out of caution, any treatment for preventive reduction of growth hormone would have to show fewer and milder side effects than drugs used against a confirmed disease. And any preventive treatment would target only adults with abnormally high growth hormone activity.

Animal studies provide evidence for the health benefits of blocking growth hor-

mone, Longo and colleagues noted. Groups led by John Kopchick of Ohio University and Andrzej Bartke of Southern Illinois University achieved a record 40 percent lifespan extension with growth factor deficient mice in studies published in 2000 and 1996, respectively. Later, the researchers linked growth factor deficiency to reduced tumor risk.

The U.S. Food and Drug Administration has already approved drugs that block growth hormone activity in humans. These are used to treat acromegaly, a condition related to gigantism.