



[Latest News](#)

[Browse Topics](#)

[Encyclopedia](#)

[Health Center](#)

[Videos](#)

[Health & Medicine](#)

[Mind & Brain](#)

[Plants & Animals](#)

[Space & Time](#)

[Earth & Climate](#)

[Matter & Energy](#)

Show **menu** | ScienceDaily **home page** **RSS feeds** | Free **newsletter**

Print this page | **Email to friend** | **Bookmark**

Source: [University of Granada](#)

Date: April 24, 2007

More on: [Mice](#), [Healthy Aging](#), [Chronic Illness](#), [Genetically Modified](#), [Rodents](#), [Lung Cancer](#)

High Melatonin Content Can Help Delay Aging, Mouse Study Suggests

Science Daily — A study carried out by researchers from the University of Granada's Institute of Biotechnology shows that consuming melatonin neutralizes oxidative damage and delays the neurodegenerative process of aging. In this study researchers used normal and genetically-modified mice which were subjected to accelerated cell aging. Researchers believe their results can also be applied to humans.

The Spanish aging Research Network (Red Nacional de

[Ads by Google](#)

[Advertise on this site](#)

Anti aging

Research causes, symptoms, and treatments for Anti aging
www.Healthline.com

Old and Tired?

Lose weight. Gain energy. Look younger. Feel great!
www.OkinawanPleasure.com

biomarkers of aging

Free white papers and webinars. Learn about biomarker discovery.
www.AppliedBiosystems.com

How To Prevent Aging Eyes

Amazingly Simple Method Touts Huge Success in Reversing Aging Vision
www.rebuildyourvision.com

Agri-Biotechnology News

Free, balanced news on the global debate over GMOs.
www.merid.org/fs-agbiotech

Health Videos & Features



New Advances in T Diabetic Peripheral Neuropathy

Treating nerve dai diabetes requires a t pronged approach: c blood sugar and allev

pain caused by peripheral neuropathy. about the latest therapies.

[Read Transcript](#)

[Related](#)

- News:**
- [Tuning Out: Music Makes Colonoscopies Less Painful](#)
 - [Weight-Loss Surgery Frequer Questions \(FAQ\)](#)
 - [Seek Treatment Now to Avoid Fall's Allergies](#)

Medina Elvira - Granada

Authorised Agents Offering Luxury Investments Overlooking Golf Course
www.propertyfinder-online.com

Spanish Courses in Spain

Learn Spanish in Granada University I Spanish, Hispanic Studies
www.clm-granada.com

Rural caves and cortijos

Spanish lake district property cave far town houses from €30.000
www.rusticom.com

Granada Airport car hire

Ford Ka from £53 week Car Hire of the 2006
www.carjet.co.uk

Ads

Investigación del Envejecimiento), funded by Carlos III Health Institute and headed by professor Darío Acuña Castroviejo, from the University of Granada (Universidad de Granada), is very near to achieving one of science's greatest goals: allowing humans to age in the best possible health conditions.

As well as from the UGR, researchers from the Spanish universities of Seville, Oviedo, Saragossa, Barcelona and Reus also took part in this study, concluding that the consumption of melatonin – a natural substance produced in small amounts by human beings and present in many types of food – delays the oxidative damage and inflammatory processes typical of the old age. Melatonin can be found in small amounts in some fruits and vegetables, like onions, cherries and bananas, and in cereals like corn, oats and rice, as well as in some aromatic plants, such as mint, lemon verbena, sage or thyme, and in red wine.

UGR participation in this study was led by professor Darío Acuña Castroviejo, member of the Institute of Biotechnology and lecturer at this University's department of Physiology. Professor Acuña Castroviejo also coordinates the Spanish aging Research Network. Both normal and genetically-modified mice, with an accelerated cell aging, were analysed. "We proved", says professor Acuña Castroviejo, "that the first signs of aging in animal tissues start at the age of five months [in mice] – equivalent to 30 human years of age – due to an increase in free radicals (oxygen and nitrogen), which cause an inflammatory reaction."

The UGR researcher points out that such oxidative stress also has effects in animals' blood, as blood cells have been proven to be "more fragile with the years and, therefore, their cell membranes become easier to break".

Use in mice

The authors administered small amounts of melatonin to mice and observed that not only did this substance neutralize the oxidative stress and the inflammatory process caused by aging, but it also delayed its effects, thus increasing longevity. In particular, the University of Granada's goal was to analyse the mitochondrial function in mice and check their mitochondrial capacity to produce ATP – adenosine triphosphate – a molecule whose mission is to store the energy every cell needs to carry out its functions.

Professor Acuña Castroviejo highlights that chronic administration of melatonin in animals from the moment they stop producing this substance – five months of age in mice – helps counteract all age-related processes. Therefore, the researcher asserts, daily melatonin intake in humans from the age of 30 or 40 could prevent – or, at least, delay – illnesses related to aging, free radicals and inflammatory processes, such as many neurodegenerative disorders (e.g. Parkinson's disease) and complications linked to other illnesses, like diabetes.

The researcher is confident that the Spanish Ministry of Health will soon legalise the use of melatonin since, being a substance naturally produced by the body, it cannot be patented and the drug industry would not make much profit out of its artificial production. However, "while the substance becomes legalised, humans should try to increase melatonin consumption through food", recommends professor Acuña Castroviejo.

The results of this study have been published in several medical journals, including Free Radical Research, Experimental Gerontology, Journal of Pineal Research and Frontiers in Bioscience.

Note: This story has been adapted from a news release issued by University of Granada.

[Ads by Google](#)

[Advertise on this site](#)



Related News Sections

- [Health & Medicine](#)
- [Plants & Animals](#)

Related News Topics

- [Mice](#)
- [Healthy Aging](#)
- [Chronic Illness](#)
- [Genetically](#)
- [Rodents](#)
- [Lung Cancer](#)

Related Science Stories

- [Jefferson Researchers Show Melatonin Potential Benefits In Preventing Parkinson's Disease](#)
- [Salivary Melatonin May Help Fight Alzheimer's Disease](#)
- [Another Grape Excuse To Hit The Books](#)
- [UB Scientists Discover Role Of Melatonin In Bone Formation](#)
- [Study Casts Doubt That Melatonin Genuinely As Age Goes Up: Older Buyers Take](#)

Related Encyclopedia Articles

- [Embryonic stem cell](#)
- [Stem cell treatments](#)
- [Polyphenol antioxidant](#)
- [Transgenic plants](#)
- [Senescence](#)
- [Calorie restriction](#)
- [Seasonal affective disorder](#)
- [Genetically modified organism](#)
- [Melatonin](#)
- [Antioxidant](#)

Related Book Reviews

- [Handbook of the Biology of Aging, 5th Edition \(Handbook of the Biology of Aging\)](#)
- [Atlas of Mouse Development](#)
- [Manipulating the Mouse Embryo: A Practical Manual](#)
- [The Perricone Weight-loss Diet: A Simple Program To Lose The Fat, The Wrinkles And The Years](#)
- [Healthy Aging : A Lifelong Guide to Physical and Spiritual Well-Being](#)

**Nanotechnology
Investment**

New nanotechnology that may reverse aging and treat disease
www.504bank.com/telodpo.asp

**Property in
Granada**

Andalusiaâ€™s last secret.
Culture of white-washed villages.
www.quality-sol.com

**High Ph
Therapy**

Alkalize body and build new cells by raising oxygen levels in cells.
www.essense-of-life.com

New! Search [Science Daily](#) or the entire web with Google:



☐ Web ☒ ScienceDaily.com

**Copyright © 1995-2007 ScienceDaily LLC — All rights reserved — Contact: editor@sciencedaily.com
[About This Site](#) | [Editorial Staff](#) | [Awards & Reviews](#) | [Contribute News](#) | [Advertise With Us](#)**