

United Press International

Compound may fight Kennedy's disease

Published: Mar. 21, 2007 at 10:10 AM

U.S. cancer scientists have discovered a compound that shows promise against a debilitating neurodegenerative condition known as Kennedy's disease.

There is currently no treatment for the inherited disorder that is caused by a mutant gene and which resembles a slowly progressive form of Lou Gehrig's disease. It affects only men.

The compound discovered at the University of Rochester Medical Center is a distant chemical relative of a component of the spice curry. Researchers said it dramatically slowed the progression of the disease in mice, allowing them to walk much more normally, maintain stronger muscles and near-normal levels of a molecule crucial for keeping nerve cells healthy.

While more research is needed to determine whether the compound could be developed into a drug to help people with the disease, scientists say it's a promising development in a field where progress has been slow.

Chawnshang Chang and colleagues report their research in the March 6 issue of the journal Nature Medicine.

Copyright © 1999 - 2007 News World Communications, Inc. <http://www.washingtontimes.com//20070321-101443-2735r.htm>

want to mislead people to think these foods themselves have any benefit for Kennedy's disease," Nature quoted him, as saying.

The researchers also found that the amount of abnormal clumps in the neurons and spinal cords of the mice was slashed by half, and that VEGF, a growth factor that is crucial for life and essential to the health of motor neurons, activity in the neurons went up more than four times in the treated mice compared to untreated mice.

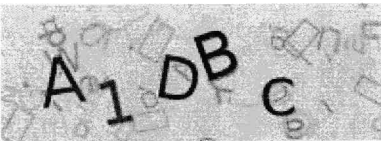
"Traditionally, when scientists have wanted to affect the androgen receptor, they have taken away substances like testosterone that bind to and activate the receptor," said Chang.

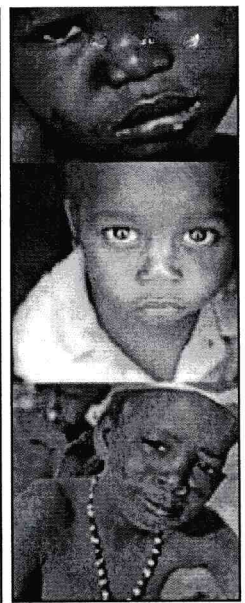
"But this can cause many unwanted, systemic side effects. We take another approach: Instead of taking away the substances that turn on the receptor, we look for ways to attack the faulty receptor directly. In this experiment, for instance, the mice treated with ASC-J9 have normal fertility and are completely healthy sexually, which wouldn't be the case if we simply took away testosterone," he added.

The study appears in the March issue of the journal Nature Medicine.

 **Email this story to a friend**

Have your say on this story

Your nickname	<input type="text"/> <i>(optional)</i>
Message	<input type="text"/>
Image verification	 <i>(enter the verification code from the image above)</i> <input type="text"/>
<input type="button" value="Post comment"/>	



www.WorldVision.org
Ads by Google

Ads by Goooooogle

Crohn's Disease Support

Let us help stop your suffering. Call for a Free consultation now!
www.AloeElite.com

Parkinson's Disease-Cure?

Clues you should know about to help you naturally conquer PD.
www.healthy-living.org

Pathways Analysis Tools

Ingenuity
Pathways Analysis Search -Analyze - Visualize -Report
www.ingenuity.com

Natural Liver Treatment

Treats and Protects the Liver from Toxins and Disease.
Guaranteed!
www.NativeRemedies.com

[Advertise on this site](#)

Research Against Rare Neuromuscular Disease

Scientists who focus on the molecular signaling that underlies **prostate cancer** have discovered a compound that shows promise against a debilitating neurodegenerative condition known as Kennedy's disease, which is caused by a mutant gene. Currently there is no treatment for the inherited disorder, which resembles a slowly progressive form of Lou Gehrig's disease and affects only men.

The compound, a distant chemical relative of a component of the spice curry, dramatically slowed the progression of the disease in mice that carried the mutant human gene that causes the disease. The mice were able to walk much more normally, their muscles were much stronger, and they had near-normal levels of a vital molecule crucial for keeping nerve cells healthy.

While a great deal more research needs to be done to see if the compound could be developed into a drug to help people with the disease, scientists say it's a promising development in a field where progress has been slow.

The research by scientists at the University of Rochester Medical Center appears in the March 6 issue of the journal Nature Medicine.

In their search for new treatments for prostate cancer and other diseases, Chawnshang Chang, Ph.D., and his colleagues have taken a few cues from centuries of Asian tradition, where curcumin – the bright yellow spice found in curry powder – has been used to treat a variety of ills. In the last decade, Western medicine has been putting curry to the test, finding that the spice offers promise against breast cancer, melanoma, Alzheimer's disease and the blisters that come with radiation treatments for cancer.

Chang notes that ginger, a family of spices that includes curcumin, is widely used in China as a folk medicine to treat male-pattern baldness. That condition is caused largely by the activity of the androgen receptor, the protein that is central to the action of testosterone and other male hormones. Chang's laboratory, in collaboration with San Diego-based AndroScience Corp., has screened hundreds of compounds for their activity involving the androgen receptor, which is also involved in prostate cancer, acne, and enlarged prostate, as well as Kennedy's disease.

Among the compounds tested is ASC-J9, a synthetic chemical compound that is loosely based on a compound found in curcumin. Significantly, however, ASC-J9 has been chemically modified compared to its natural counterpart to make it much more powerful. Despite the promise it offers for Kennedy's disease, Chang notes that ASC-J9 must be rigorously screened for side effects and effectiveness, through clinical studies in people, before it can be considered as a possible treatment for any disease.

"The compound we are studying has been significantly modified from the original ingredient found in food like curry or ginger," said Chang, a faculty member in the departments of Urology and Pathology and the James P. Wilmot Cancer Center. "It still must be tested in people. We certainly don't want to mislead people to think these foods themselves have any benefit for Kennedy's disease."

[Ads by Goooooogle](#)

[Alz Disease](#)

Breaking News, Expert Tips, Member Support, Treatment Options & More

www.EverydayHealth.com

[Liquid Cesium Chloride](#)

Cesium Chloride can stop cancer pain with in 24 to 48 hours.

www.essense-of-life.com

[Breast Cancer Test](#)

Test can predict risk of recurrence in women with early stage disease.

www.oncotypeDX.com

[New Ovarian Cancer Trial](#)

Phase 3 study now enrolling women in the New York area.

www.ASSIST-Ovarian.com

Similar Stories

- [What Is Goal Of Therapy In Patients With Chronic Stable Angina?](#)
- [New Efficacy Data For Unique Anti-Anginal Therapy](#)
- [Study Of Heart Failure Patients Shows Diuretic Drug Benefits](#)

Just last month, a clinical trial evaluating the use of ASC-J9 as a cream to treat acne began. The tests are being conducted by AndroScience Corp., a biotech company founded by Chang, Charles C-Y Shih, and Por-Hsiung Lai in 2000. The University owns a stake in the company, which has licensed several of Chang's research findings.

As the director of George Whipple Laboratory for Cancer Research at the University of Rochester Medical Center, much of Chang's research focuses on prostate cancer. His research has explained some previously baffling developments late in the course of that disease, opening the door to newer treatments.

In 1988 Chang was the first to clone the androgen receptor, and he was the first to discover that the protein needs molecular allies called co-factors to accomplish many of its tasks. Now more than 70 co-factors are known, offering many new targets to potentially stop conditions like Kennedy's disease that involve the receptor itself.

Chang's work has led to an understanding of the genetic basis of Kennedy's disease, which affects the motor neurons that go from the spine to certain muscles, causing muscle weakness and wasting throughout body. Symptoms typically include difficulty speaking and swallowing, and weakness in the arms and legs. Patients are often diagnosed in their 30s and 40s, and while most live a normal life span, many patients end up using a wheelchair and have serious health difficulties. Currently there is no way to slow the progression or prevent the disease, which is estimated to affect a few thousand Americans, perhaps 4,000 or so.

In the experiments reported in *Nature Medicine*, mice carrying the human gene that were treated with ASC-J9 experienced a remarkable improvement. They were more mobile than their untreated counterparts, walking more normally and dragging their legs less often. Their muscles appeared to work normally, and they lived 40 percent longer than the untreated mice. In addition, the mice treated with ASC-J9 were able to mate and produce offspring, while their counterparts could not.

ASC-J9 appears to work by breaking up a sort of molecular clog in neurons affected by Kennedy disease. The biology of the disease is bit like Huntington's disease, a more common neurodegenerative disease that is inherited, fatal, and unyielding in its progression. Both are caused by an abnormal repeat of three nucleotides, CAG, though not in the same gene – a kind of molecular stutter that results in extra copies of the amino acid glutamine.

In such diseases, the extra amino acids become part of abnormal proteins that clump up inside neurons, creating a clog that can bring normal molecular activity to a standstill. The clumps of material eventually become toxic to neurons.

In Kennedy's disease, a vital molecule known as CREB-binding protein or CBP becomes bound up or entangled by the clumps in motor neurons. This smothers CBP's normal activity which involves turning on another molecule known as VEGF, a growth factor that is crucial for life and essential to the health of motor neurons.

Chang's team found that ASC-J9 breaks up the clumps by separating the androgen receptor from some of its helper molecules, or co-factors. As the clumps dissolve, CBP moves throughout the cell as it normally would, producing more VEGF.

Ultimately, the work brought about healthier mice whose symptoms were much improved. Chang's team also found that the amount of abnormal clumps in the neurons and spinal cords of the mice was slashed by half, and that VEGF activity in the neurons went up more than four times in the treated mice compared to untreated mice.

The new research is a signal that new avenues for treating conditions like prostate cancer, baldness and Kennedy's disease – all of which rely on the androgen receptor – are opening up, thanks to the

dozens of molecular players that Chang and others have identified in the past decade.

"Traditionally, when scientists have wanted to affect the androgen receptor, they have taken away substances like testosterone that bind to and activate the receptor," said Chang. "But this can cause many unwanted, systemic side effects. We take another approach: Instead of taking away the substances that turn on the receptor, we look for ways to attack the faulty receptor directly. In this experiment, for instance, the mice treated with ASC-J9 have normal **fertility** and are completely healthy sexually, which wouldn't be the case if we simply took away testosterone.-University of Rochester Medical Center

[Print this Page](#)[Close Window](#)**Compound may fight Kennedy's disease**

Posted on : 2007-03-21 | Author : Science News Editor
News Category : Science

ROCHESTER, N.Y., March 21 (UPI) U.S. cancer scientists have discovered a compound that shows promise against a debilitating neurodegenerative condition known as Kennedy's disease.

There is currently no treatment for the inherited disorder that is caused by a mutant gene and which resembles a slowly progressive form of Lou Gehrig's disease. It affects only men.

The compound discovered at the University of Rochester Medical Center is a distant chemical relative of a component of the spice curry. Researchers said it dramatically slowed the progression of the disease in mice, allowing them to walk much more normally, maintain stronger muscles and near-normal levels of a molecule crucial for keeping nerve cells healthy.

While more research is needed to determine whether the compound could be developed into a drug to help people with the disease, scientists say it's a promising development in a field where progress has been slow.

Chawnshang Chang and colleagues report their research in the March 6 issue of the journal Nature Medicine.

Copyright 2007 by United Press International

[Print this Page](#)[Close Window](#)**Print Source :**

<http://www.earthtimes.org/articles/show/42645.html>

© 2007 earthtimes.org. All Rights Reserved.

This material may not be published, broadcast, rewritten, or redistributed.

Search: [Go](#) [Join our team](#)[Login](#)
[Register](#)[Home](#) > [Health](#)[Next](#)

- ▶ [Home](#)
- ▶ [Entertainment](#)
- ▶ [Lifestyle](#)
- ▶ [Gossip](#)
- ▶ [Fashion](#)
- ▶ [Fashion Designers](#)
- ▶ [Bollywood](#)
- ▶ [Business](#)
- ▶ [Sports](#)
- ▶ [Tech Tease](#)
- ▶ [Health and Science](#)
- ▶ [Travel](#)
- ▶ [About](#)

Fashion Shows - Summer 2007

[Paris Fashion](#)
[Milan Fashion](#)
[New York Fashion](#)
[Paris Haute Couture](#)
[Paris Men's Fashion](#)

Fashion Shows - Winter 2007

[Milan Fashion](#)

[Victoria's Secret \(2006\) : Blend of Sexy and Tartan](#)
[Victoria's Secret \(2005\)](#)

[Fashion](#)

['Sexier' Tokyo opens tallest skyscraper](#)

[Bans no answer to ultra-thin models: Singapore fashion fest](#)

[Liz Hurley too 'old' to be face of Monsoon any longer!](#)

[Sarah Harding fronts Ultimo's Spring/Summer 2007 lingerie collection](#)

['Cute' the word for Japanese girls](#)

[India designers look to historical fashion to lure foreign buyers](#)

[India designers mix femininity with tradition](#)

[Super model Rachel Hunter launches own swimwear line](#)

[Lifestyle](#)

[Afghan police at work in flip-flops and high on opium](#)

[Journalism's 'Gray Lady' tries on new colors on the 'net](#)

[US White House hopes follow the money](#)

[Post-war everyday art of "New Realists" back in spotlight](#)

[Guinea pigs, 'super Sherpas' and half-naked man in Everest bids](#)

[Bullies in cyberspace spark growing concern](#)

[Tall people can't dress!](#)

[Shot in the arm needed for Russian medicine distribution system](#)

[Bloggers are not journalists, Lithuanian parliament says](#)

[Strain shows on Japan quake survivors](#)

[Previous](#)

CHEMICAL RELATIVE OF TURMERIC MAY HOLD CURE FOR NEUROMUSCULAR DISEASE

Posted on 2007年3月21日 (EST)

Scientists have found that a compound, that happens to be a chemical relative of a component found in spice curry, may hold the cure for a debilitating neurodegenerative condition known as Kennedy's disease.

[Ads by Goooooogle](#)[Advertise on this site](#)

[Email this page](#)

**Colon Cancer Home Test**

You should test every year. Fast and easy to do.
www.cancerhometest.com

Overweight Or Diabetic?

All natural formula is here! Get ready to battle illnesses/affiliate
www.thegreenpill.com

Liver is the largest

internal organ in the body. Clean it naturally with LivPlus
www.WorldofAyurveda.com

Breast Cancer Test

Test can predict risk of recurrence in women with early stage disease.
www.oncotypeDX.com

Washington, Mar 21: Scientists at the University of Rochester Medical Center have found that a compound, that happens to be a chemical relative of a component found in spice curry, may hold the cure for a debilitating neurodegenerative condition known as Kennedy's disease.

The disease, which is caused by a mutant gene, currently has no cure, and is an inherited disorder that affects only men.

Scientists led by Chawnshang Chang, Ph.D. conducted a study on a mouse model and found that the chemical relative of curcumin – the bright yellow spice found in curry powder which has traditionally been used in Asian countries to treat a variety of ills, dramatically slowed the progression of the disease in mice that carried the mutant human gene that causes the disease.

As a part of their study the researchers tested hundreds of compounds, including ASC-J9, a synthetic chemical compound that is loosely based on a compound found in curcumin.

The researchers noted that when mice carrying the human gene that were treated with ASC-J9, they experienced a remarkable improvement.

The rodents were not only more mobile than their untreated counterparts, but were also walking more normally and dragging their legs less often.

Their muscles appeared to work normally, and they lived 40 percent longer than the untreated mice. In addition, the mice treated with ASC-J9 were able to mate and produce offspring, while their counterparts could not.

However, Chang warns that the compound had been 'significantly modified', and that it still needed to be tested on humans.

"The compound we are studying has been significantly modified from the original ingredient found in food like curry or ginger. It still must be tested



Celebrity Watch: celebrates release album



Sarah Harding in Spring/Summer collection

Hot to

Britney Spears at amidst another music video

Size zero Victoria's Secret models from her range

Abhishek - Aishwarya for 19 April: report

Dreamgirl Beyoncé Illustrated's Swimwear

Readers' Choice

Dorota Long on Victoria and Katie Holmes children's clothing

Anonymous on "Gator creator plans topless swimsuits"

Gos

Celebrity Watch: celebrates release album

Maddox wanted to be himself

Kidman in pregnancy again!

Rod Stewart's son lusting for step-mother Hunter

Gisele Bündchen in family will be her achievement"

Lindsay Lohan tell keep away from Tom

Tom Cruise could wartime thriller to Scientology

Paris Hilton has a James Blunt and I call it quits

Here's who Paris is virginity to!

Tra

Secret doors of the in Giza to be revealed

Offbeat

- [US couples make beeline for 777 wedding date](#)
- [More men report sexual harassment in US workplace](#)
- [French girls having sex as early as boys, report shows](#)
- [Toddler runs down mum with family car](#)
- [Vagina mention lands three US students in hot water](#)

in people. We certainly don't want to mislead people to think these foods themselves have any benefit for Kennedy's disease," Nature quoted him, as saying.


The researchers also found that the amount of abnormal clumps in the neurons and spinal cords of the mice was slashed by half, and that VEGF, a growth factor that is crucial for life and essential to the health of motor neurons, activity in the neurons went up more than four times in the treated mice compared to untreated mice.

"Traditionally, when scientists have wanted to affect the androgen receptor, they have taken away substances like testosterone that bind to and activate the receptor," said Chang.

"But this can cause many unwanted, systemic side effects. We take another approach: Instead of taking away the substances that turn on the receptor, we look for ways to attack the faulty receptor directly. In this experiment, for instance, the mice treated with ASC-J9 have normal fertility and are completely healthy sexually, which wouldn't be the case if we simply took away testosterone," he added.

The study appears in the March issue of the journal Nature Medicine. (ANI)

Talk back: [Email your opinion on the subject for publication here to talkback@sawf.org](mailto:talkback@sawf.org)

 [Email this page](#)

[Ads by Goooooogle](#)

[Advertise on this site](#)

Motor Neuron Disease

Treat Motor Neuron Disease fast with this simple herbal formula.
Mototab.com

Breast Cancer Test

Test can predict risk of recurrence in women with early stage disease.
www.oncotypeDX.com

Motor Neuron Disease

Ronitin: Simple time tested remedy for Motor Neuron Disease
Ronitin.com

New Ovarian Cancer Site

ASSIST-Ovarian web site provides information about clinical trials.
www.ASSIST-Ovarian.com

Recent Topics:

- [Here's why some people are attractive and others aren't](#)
- [Tequila raw ingredient may be a natural drug-carrier that targets colon diseases](#)
- [Intravenous stem cells therapy may benefit heart attack patients](#)
- [Strong link found between trans fat and heart disease in women](#)
- [High beef consumption during pregnancy lowers sperm-count in sons](#)
- [Herbal extract helps extend lifespan of heart failure patients](#)
- [Stick-thin models make women of all sizes feel bad about their bodies](#)
- [Immunity to cancer stem cells may protect people at cancer risk](#)
- [Now, surgery sans scars may be possible](#)
- [Lung cancer screening regimen provides opportunity for cure](#)

- [Walking on thin a Canyon 'skywalk' open](#)
- [Namibia's breath National Park turr](#)
- [Science trumping China's "Valley of](#)
- [Stardust memorie Vegas hotel demo](#)
- [Paris bike scheme launch](#)
- [Ter](#)
- [Microsoft officially Xbox 360 Elite](#)
- [Soon, cell phones absorbing all-plas](#)
- [Sanyo unveils SCI rugged mobile ph](#)
- [Sony Ericsson lau Walkman phone](#)
- [Hyped-up gamers generation Playsta](#)
- [A 'thinking watch' let you get late](#)

Search News

CURCUMINOID FOUND EFFECTIVE AGAINST MUSCULAR DYSTROPHY

03/06/2007

Taipei, March 6 (CNA) A newly-developed curcumin compound has proven effective against muscular dystrophy in tests on rodents, conducted by a U.S.-based research team led by a Taiwanese professor, sources at Taipei Medical University (TMU) said Tuesday.

TMU visiting professor and project manager Chang Chawn-shang -- who is also a professor at the University of Rochester, New York -- has led the experiment since 2002, testing the curcuminoid -- dubbed as "ASC- J9" -- on some 60 rodents with muscular dystrophy.

According to Chang Yu-chia -- a TMU research fellow and part of the team, they started with the goal of find a cure for prostate cancer by breaking down excessive androgen receptors. "However, " Chang said, "we ended up with findings that showed ASC-J9 can cure muscular dystrophy related to androgen receptor mutations."

In the experiment, the physically-impaired mice regained partial control over body movement after being given ASC-J9.

"If the mice received treatment in the first eight to 10 weeks of incidence, " they noted, "there was a great chance that their muscle strength and moving abilities would return to normal status."

They explained that although ASC-J9 cannot prevent onset of the disease, the treatment was proved effective in prolonging the lifespan of the mice involved, from an average life expectancy of 29 to 40 weeks.

The medication's second stage of human testing will begin in the following months, Chang pointed out, adding that if everything goes well, ASC-J9 could become the first medicine available capable of curing human muscular dystrophy. (By Zep Hu)

TAIPEI TIMES

Published on [Taipei Times](http://www.taipeitimes.com)

<http://www.taipeitimes.com/News/taiwan/archives/2007/03/07/2003351265>

Advance reported in fight against muscular dystrophy

STAFF WRITER, WITH CNA

Wednesday, Mar 07, 2007, Page 2

A newly developed curcumin compound has proven effective against muscular dystrophy in tests on rodents conducted by a US-based research team led by a Taiwanese professor, sources at Taipei Medical University (TMU) said yesterday.

TMU visiting professor and project manager Chang Chawn-shang (張傳祥) -- who is also a professor at the University of Rochester, New York -- has led the experiment since 2002, testing the curcuminoid -- dubbed "ASC- J9" -- on some 60 rodents with muscular dystrophy.

ACCIDENTIAL FINDING

According to Chang Yu-chia (張育嘉) -- a TMU research fellow and part of Chang Chawn-shang's team, the researchers started with the stated goal of finding a cure for prostate cancer by breaking down excessive androgen receptors.

"However, we ended up with findings that showed ASC-J9 can cure muscular dystrophy related to androgen receptor mutations," Chang Yu-chia said.

Physically-impaired mice regained partial control over body movement after being given ASC-J9 during the experiment.

EARLY INTERVENTION

"If the mice received treatment in the first eight to 10 weeks of incidence, there was a great chance that their muscle strength and moving abilities would return to normal status," the research team said.

They said that although ASC-J9 cannot prevent onset of muscular dystrophy, the treatment was proved effective in prolonging the lifespan of the mice involved, from an average life expectancy of 29 to 40 weeks.

CLINICAL TRIALS

The medication's second stage of testing -- clinical trials on human volunteers -- will begin in the following months, Chang Yu-chia said.

If everything goes well in the next round of tests, ASC-J9 could become the first drug to cure muscular dystrophy, Chang Yu-chia said.

Copyright © 1999-2007 The Taipei Times. All rights reserved.