



[Home](#) [News](#) [Sport](#) [Radio](#) [TV](#) [Weather](#) [Languages](#)

[Low graphics](#) | [Accessibility help](#)



[Watch](#) **One-Minute World News**

News services
Your news when you want it



News Front Page

Last Updated: Tuesday, 9 January 2007, 16:18 GMT

[E-mail this to a friend](#)

[Printable version](#)



How spicy foods can kill cancers

[Africa](#)

[Americas](#)

[Asia-Pacific](#)

[Europe](#)

[Middle East](#)

[South Asia](#)

[UK](#)

[Business](#)

[Health](#)

[Medical notes](#)

[Science & Environment](#)

[Technology](#)

[Entertainment](#)

[Also in the news](#)

Scientists have discovered the key to the ability of spicy foods to kill cancer cells.



Capsaicin in some peppers, attacks cancer cells' mitochondria

They found capsaicin, an ingredient of jalapeno peppers, triggers cancer cell death by attacking mitochondria - the cells' energy-generating boiler rooms.

The research raises the possibility that other cancer drugs could be developed to target mitochondria.

The Nottingham University study features in Biochemical and Biophysical Research Communications.

The study showed that the family of molecules to which capsaicin belongs, the vanilloids, bind to proteins in the cancer cell mitochondria to trigger apoptosis, or cell death, without harming surrounding healthy cells.

Capsaicin was tested on cultures of human lung cancer cells and on pancreatic cancers.

“ We believe that we have in effect discovered a fundamental 'Achilles heel' for all cancers ”

Lead researcher Dr Timothy Bates said: "As these compounds attack the very heart of the tumour cells, we believe that we have in effect discovered a fundamental 'Achilles heel' for all cancers.

"The biochemistry of the mitochondria in cancer cells is very different from that in normal cells.

"This is an innate selective vulnerability of cancer cells."

He said a dose of capsaicin that could cause a cancer cell to enter apoptosis, would not have the same effect on a normal cell.

Potential Drugs

The fact that capsaicin and other vanilloids are already commonly found in the diet proves they are safe to eat.

“ Cancer Research UK recommends reducing your risk of cancer by eating a healthy, balanced diet, with plenty of vegetables and fruit ”

Josephine Querido

This could make development of a drug containing them a much quicker and cheaper process.

VIDEO AND AUDIO NEWS

Researchers say eating spicy food daily offers protection from cancer

[Watch](#)

SEE ALSO

[Pepper 'kills prostate cancer'](#)

15 Mar 06 | Health

[Could chilli peppers relieve pain?](#)

30 Jun 06 | Health

[Secrets of how cells die revealed](#)

10 Apr 04 | Health

RELATED INTERNET LINKS

[Cancer Research UK](#)

[University of Nottingham](#)

[Biochemical and Biophysical Research Communications](#)

The BBC is not responsible for the content of external internet sites

TOP HEALTH STORIES

[Bubonic plague reported in Libya](#)

[Cancer boost from whole carrots](#)

[Hope for test to measure ageing](#)

[RSS](#) | [News feeds](#)

MOST POPULAR STORIES NOW

[MOST SHARED](#)

[MOST READ](#)

[Belgian girl's tattoo 'nightmare'](#)

[US man 'posed as his dead mother'](#)

[Fresh rally takes place in Tehran](#)

[US unveils banking reform plans](#)

[Potter plagiarism claims denied](#)

[Babes-in-freezer trial grips France](#)

[Vatican bans sect's ordinations](#)

[Bubonic plague reported in Libya](#)

[Mexico cocaine 'hidden in sharks'](#)

[New dinosaur gives bird wing clue](#)

[Most popular now, in detail](#)

RELATED BBC SITES

[SPORT](#)

[WEATHER](#)

[ON THIS DAY](#)

[EDITORS' BLOG](#)

Dr Bates said: "Capsaicin, for example, is already found in treatments for muscle strain and psoriasis - which raises the question of whether an adapted topical treatment could be used to treat certain types of skin cancer.

"It's also possible that cancer patients or those at risk of developing cancer could be advised to eat a diet which is richer in spicy foods to help treat or prevent the disease."

However, Josephine Querido, cancer information officer at Cancer Research UK, said: "This research does not suggest that eating vast quantities of chilli pepper will help prevent or treat cancer.

"The experiments showed that pepper extracts killed cancer cells grown in the laboratory, but these have not yet been tested to see if they are safe and effective in humans."

Cancer Research UK recommends reducing the risk of cancer by eating a healthy, balanced diet, with plenty of vegetables and fruit.

Dr Bates added that the mitochondria in cancer cells could also be targeted by other compounds.

He said the investigation and development of anti-mitochondrial drugs for cancer chemotherapy was likely to be "extremely significant" in the fight against cancer.

 [E-mail this to a friend](#)

 [Printable version](#)

FEATURES, VIEWS, ANALYSIS



Washington diary
Why events in Iran pose big challenge for Obama



Giant art
Buildings in Rio de Janeiro become artist's canvas



Pregnancy denial?
Trial of mother who killed and froze babies grips France

Most Popular Now

The most read story in the UK is: [City 'cannot contain swine flu'](#)

PRODUCTS & SERVICES

[E-mail news](#)

[Mobiles](#)

[Alerts](#)

[News feeds](#)

[Podcasts](#)

MMIX

Most Popular Now | The most read story in Europe is: [Belgian girl's tattoo 'nightmare'](#)

[Back to top](#) ^^

[Help](#) | [Privacy and cookies policy](#) | [News sources](#) | [About the BBC](#) | [Contact us](#) |