

SUBSCRIBE TO NEW SCIENTIST

Select a country

Subscribe

NewScientist

SATISFY YOUR QUEST FOR KNOWLEDGE  
SUBSCRIBE AND SAVE 20%



NewScientist

Health

search New Scientist

Go

Log in

My New Scientist

Home News In-Depth Articles Blogs Opinion TV Galleries Topic Guides Last Word Subscribe

Look for Science Jobs

SPACE TECH ENVIRONMENT HEALTH LIFE PHYSICS&MATH SCIENCE IN SOCIETY

Home | Health | News

## Sound waves can identify cancers that have spread

16:07 01 June 2011 by [Lucas Laursen](#)

For similar stories, visit the [Cancer](#) Topic Guide

A device that filters cancer cells from human blood using sound could help to identify tumour cells that have spread.

Finding tumour cells in the blood indicates a cancer has metastasised – but the molecular markers that are used to identify the cells can modify them and make them unsuitable for studying how treatment is proceeding and for performing basic cancer research.

So Itziar González at the Institute for Acoustics in Madrid, Spain, and colleagues developed an alternative: a tiny vibrating plastic chamber through which a blood sample flows. The vibrations create a standing wave that deflects cells in the blood to a different degree depending on their size. Tumour cells are often larger than blood cells and so collect in a different region of the device. The process does not alter the cells.

The prototype can reliably differentiate cancer cells 70 per cent of the time, and a modified version that exposes the blood to the acoustic waves for a longer amount of time should be able to differentiate a cancer cell from a normal cell 95 per cent of the time.

That's important, because identifying just two or three tumour cells in a typical 7-millilitre sample of blood is enough to determine that a cancer is metastasising, González says. Miss that small number of cells because of problems with the sensitivity of a device and "we won't be able to make that diagnosis", says González.

[David Beebe](#) at the University of Wisconsin, Madison, thinks the technique has potential. "Not labelling the cells is an advantage" for cultivating and studying them, he says.

González presented the work at the [International Conference on Microtechnologies in Medicine and Biology](#) in Lucerne, Switzerland, last month.

19 tweets  
retweet

Like



If you would like to **reuse any content** from New Scientist, either in print or online, please [contact the syndication](#) department first for permission. New Scientist does not own rights to photos, but there are a [variety of licensing options](#) available for use of articles and graphics we own the copyright to.

### Have your say

Only subscribers may leave comments on this article. Please log in.

email:

password:



PRINT



SEND



SHARE

ADVERTISEMENT



This week's issue

Subscribe

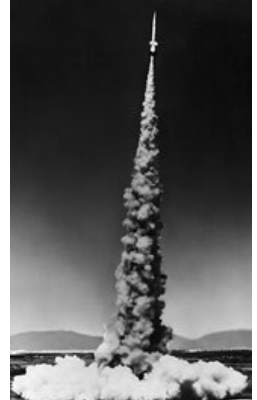


04 June 2011

ADVERTISEMENT

NewScientist  
SUBSCRIBE and SAVE 20%

SATISFY YOUR QUEST FOR KNOWLEDGE



More Latest news

#### Could milk get ultraviolet treatment?

15:58 01 June 2011

Bathing milk and other liquids in ultraviolet light could replace pasteurisation and make for healthier drinks

#### Cellphones are 'possibly' carcinogenic

15:55 01 June 2011

Major review says heavy cellphone use may increase risk of specific type of brain tumours

#### Ratko Mladic health appeal rejected

17:58 31 May 2011

The former Bosnian Serb general has been deemed fit to be extradited to The Hague to stand trial on genocide charges

#### Death toll rising in cucumber bacteria outbreak

17:12 31 May 2011

*E. coli* found in cucumbers in Germany has so far killed 16 people

[see all related stories](#)

Most read Most commented

#### Cross your arms to relieve pain

Man's best friends: How animals made us human

First images from Great Pyramid's chamber of secrets

Into the breeches: A makeover for