



DailyIndia.com

Your daily news source for India and more

Channels

[Home](#)

[National](#)

[World](#)

[Business](#)

[Sports](#)

[Cricket](#)

[Entertainment](#)

[Health](#)

[Science](#)

[Bollywood](#)

[Voices](#)

[Geekwerks](#)

People

[Aishwarya Rai](#)

[Salman Khan](#)

[More Celebs](#)

[India Blogs](#)

Resources

[About India](#)

[by City](#)

[by State](#)

[Travel Guide](#)

[Indian Recipes](#)

[India Twits](#)

[Indian Jobs](#)



Stem cells with human heart tissue 'reprogrammed' to improve treatments

From ANI

Washington, May 20: For the first time, Spanish researchers have used adult cells extracted from human heart tissue to turn stem cells from adipose tissue into cardiac myocytes.

IE University, Spain

Shape your future! International, entrepreneurial & humanist degrees

www.ie.edu/university

Compare Masters Courses

Find and compare MSc, MA, LLM, MBA, and more postgraduate courses here!

www.MastersCompare.co.uk

Cranfield MSc in

Managing Organisational Performance Network with fellow professionals

www.Som.cranfield.ac.uk/som/msc

Ads by Google

In other words, they achieved to "reprogram" adult stem cells, which might improve treatments for heart disease therapeutical.

Currently, the use of stem cells in heart disease treatments is one of the most common practices. However, working with stem cells involves many difficulties.

Thus, inducing cell differentiation into cardiac muscle (cardiomyocytes) may be one of the best options in the treatment of these pathologies.

For the study, researchers isolated adult human stem cells from lipoaspiration. Subsequently, these cells were temporarily permeabilized and exposed to a human-auricle cell extract. Then, these cells were recovered in culture.

After 21 days in culture, the cells differentiated towards a cardiac myocyte phenotype, which was demonstrated by expression of morphological changes (appearance of binuclear cells with striated fibers and ramifications), detection of cardiospecific markers through immunofluorescence, and the presence of cardiac muscle-related genes that were analysed through RT-PCR; and finally, by expression of reverse transcription.

Thus, mesenchimal stem cells acquired a cardiac phenotype.

The technique, developed by researchers from the University of Jaen (Spain), the University of Granada, the Hospital Clínico Universitario of Malaga and the University of Bath (United Kingdom), could be used in the future for regeneration of cardiac muscles through the use of cells directly extracted from the patient.

However, physicians have remarked that, at present, this research is in its earlier stages, and it will be a long time until it has any therapeutical use.

Currently, researchers are preparing a new approach for introducing the cell extract into the target cell (by using a cell microinjector) that will allow them to obtain a larger number of viable differentiated cells, which is essential for their having any therapeutical use.

The following step is to use animal models to validate differentiated cells' functionality.

Finally, a number of clinical trials should be conducted to assess the viability of this technique in human patients.

Breaking News

· [TSA's behavioral screening wing failing to spot potential terrorists](#)

· [Moderate drinkers 'are healthier than teetotalers'](#)

· [Daily ginger consumption alleviates muscle pain](#)

· [Times Square bomber still confused about why car bomb failed to explode](#)

· [Having a child with autism doesn't put stress on parents' marriage: Study](#)

· [Particulate air pollution bad for heart health](#)

· [Price of electricity to increase by Rs one per unit: Shinde](#)

· [CA rubbishes 'match fixing' rumours behind Australia's remarkable Sydney win against Pak](#)

· [No gatecrashers at Obama's second State dinner](#)

· [Novartis ordered to pay 250 m dollars to sexually harassed female sales reps](#)

It is going to be published on the Journal Cytotherapy, the official reporting organ of the International Society for Cellular Therapy (ISCT).

Copyright Asian News International/DailyIndia.com

Currently trending: Cricket, Michael Clarke, Tiger Woods, Wayne Rooney, Shahid Afridi, Michael Jackson, John Terry, Lewis Hamilton, Russell Crowe, David Beckham

Share it:



[Related News](#)

[Most Popular Stories](#)

[Related News](#)

[Most Popular Stories](#)

1. **Miss Oklahoma lost Miss USA 2010 crown due to Arizona immigration law?**
2. **Cabinet Committee on Security to discuss Chattisgarh's Naxal attack**
3. **End of smallpox vaccination 'led to the explosive spread of HIV'**
4. **FIFA to probe Triesman's comments**
5. **Hurst backs England to reach World Cup semis, but not win the trophy**

Online MBA & MSc Degrees

University of Liverpool Mgmt School 100% online - 100% supported
www.liverpool.ohecampus.com

Mba School

Two year Executive MBA Program. Global program for global leaders!
www.Kellogg.whu.edu

Doctorate Phd Degree Online

Find Doctoral Programs. Your Business Solution
 Business.com
www.business.com

International MBA Program

A 12 month, full-time MBA program tailored to your needs
www.em-lyon.com/entrepreneurial-MBA

Ads by Google

How Will You Look Old?

CLICK HERE!

myWebFace

Make your monitor come alive!

Click here!

POPULAR SCREENSAVERS