

Monday Morning

# RMRC, Bhubaneswar

(Laxmi Narayan Memorial Library)

## Weekly Current Awareness Service

VOL 3#1

1<sup>st</sup> JANUARY

2018

Happy New Year

|| This year believe in yourself and  
achieve everything you deserve. ||

2018

### About Monday Morning

Monday morning is a weekly E- CAS (Electronic Current Awareness Service) of RMRC Library, Bhubaneswar which carries one Biomedical & health science news item and some useful current medical research links so that the scientists can access the articles. This E- Bulletin starts its journey from 21<sup>st</sup> Nov. 2016. In this maiden attempt we cordially invite your inputs and suggestions to improve in future.

Dr. Banamber Sahoo, Lib & Inf. Officer  
Poonam Singh Deo & Hemanti Mahali (Lib. Trainee)

# Now, a device that uses urine for detecting cancer

This nanowire equipment can capture extracellular vesicles that act as screens for carcinogens and speed up diagnosis of the disease

TOKYO: Scientists have developed a nanowire device that can detect microscopic levels of cancer markers in the urine, an advance that could help non-invasively diagnose the deadly disease. Cells communicate with each other through a number of different mechanisms.

A less familiar mode of cellular transport is the extracellular vesicle (EV), which can be thought of as small 'chunks' of a cell that are able to pinch off and circulate throughout the body to deliver messenger cargo to other cells.

These messengers have become increasingly recognised as crucial mediators of cell-to-cell communication. Researchers have developed a novel medical device that can efficiently capture these EVs, and po-



tentially use them to screen for cancer.

"EVs are potentially useful as clinical markers. The composition

of the molecules contained in an EV may provide a diagnostic signature for certain diseases," said Takao Yasui, from Nagoya University in

Japan.

Among the many molecules EVs have been found to harbor are microRNAs, which are short pieces of ribonucleic acid that play diverse roles in normal cellular biology. Critically, the presence of certain microRNAs in urine might serve as a red flag for serious conditions such as bladder and prostate cancer.

"The content of EVs in urine is extremely low, at less than 0.01 per cent of the total fluid volume. This is a major barrier to their diagnostic utility," Yasui said.

"Our solution was to embed zinc oxide nanowires into a specialized polymer to create a material that we believed would be highly efficient at capturing these vesicles," he said.

<http://epaper.newindianexpress.com/c/24900230>

## 1. How to be happy in 2018

What can you do to ensure that 2018 will be a truly happy year? Medical News Today look at some tips that researchers have recommended for a healthier, more fulfilling life. If there is anything that everyone undoubtedly wants in their life, it is that often elusive feeling of happiness. Here are some steps that you can take starting right now to boost your quality of life. For more details click on the below link

<https://www.medicalnewstoday.com/articles/320480.php>

## 2. Top Technical Advances in 2017

The year's most impressive achievements include new methods to extend CRISPR editing, patch-clamp neurons hands-free, and analyze the contents of live cells. Researchers aren't just finding new applications for this precise and relatively easy-to-use gene-editing technique, they're also tweaking it to give it new powers. Among this year's developments: For more details click on the below link

<https://www.the-scientist.com/?articles.view/articleNo/51220/title/Top-Technical-Advances-in-2017/>

## 3. Bacteria acquire resistance from competitors

In a recent publication in Cell Reports, Researchers from the Biozentrum of the University of Basel have demonstrated that some bacteria inject a toxic cocktail into their competitors causing cell lysis and death. Then, by integrating the released genetic material, which may also carry drug resistance genes, the predator cell can acquire antibiotic resistance..For more details click on the below link

[https://www.eurekalert.org/pub\\_releases/2017-12/uob-bar122717.php](https://www.eurekalert.org/pub_releases/2017-12/uob-bar122717.php)

## 4. Prostate cancer: A valuable tool for prediction of repeat biopsy pathology

Multiparametric MRI (mpMRI) findings are not always accurate in patients with a previous negative prostate biopsy. Truong et al. have developed a nomogram to identify patients with previous negative prostate biopsy who are at elevated risk of harbouring benign histology and should undergo repeat biopsy..For more details click on the below link

<https://www.nature.com/articles/nrurol.2017.216>



## E- CAS (Current Awareness Service)

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