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PHARMAPEDIA

PSGCP E-News Letter

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Nanoparticles derived from tea leaves destroy lung cancer cells:



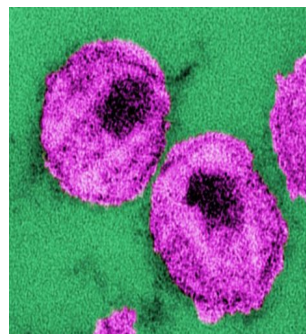
Nanoparticles derived from tea leaves inhibit the growth of lung cancer cells, destroying up to 80 percent of them, new research by a joint Swansea University and Indian team has shown. Tea leaves contain a wide variety of compounds, including polyphenols, amino acids, vitamins and antioxidants.

The researchers mixed tea leaf extract with cadmium sulphate (CdSO_4) and sodium sulphide (Na_2S) and allowed the solution to incubate, a process which causes quantum dots to form. They then applied the dots to lung cancer cells. Quantum dots produced from tea leaves inhibit the growth of lung cancer cells. They penetrated into the nanopores of the cancer cells and destroyed up to 80% of them. The CdS quantum dots derived from tea leaf extract showed exceptional fluorescence emission in cancer cell bioimaging compared to conventional CdS nanoparticles

[Ref:https://pubs.acs.org/doi/10.1021/acsanm.8b00147](https://pubs.acs.org/doi/10.1021/acsanm.8b00147)

Combination antibody therapy results in long-term viral suppression in HIV infection

A new generation of broadly neutralising antibodies provides a novel approach to treat HIV infection. The research group of Prof Florian Klein, Director of the Institute of Virology at the University Hospital Cologne and scientist at the German Center for Infection Research (DZIF), has collaborated with scientists at the Rockefeller University in New York and the University Hospital Cologne to investigate the impact of combining such antibodies in HIV-infected patients. Compared to antiretroviral drugs, broadly neutralising antibodies have longer half-lives and can directly target the virus. The results of this clinical trial highlight the potential for antibody combinations to maintain long-term control of HIV. Further clinical trials investigating additional approaches using broadly neutralising antibodies in HIV infection are currently being conducted at the DZIF site in Cologne.



[Ref:www.dzif.de/en/news_media_centre/news_press_releases/view/detail/artikel/combination_antibody_therapy_results_in_long_term_viral_suppression_in_hiv_infection/](http://www.dzif.de/en/news_media_centre/news_press_releases/view/detail/artikel/combination_antibody_therapy_results_in_long_term_viral_suppression_in_hiv_infection/)

Cannabis extract helps reset brain function in psychosis

Research from King's College London has found that a single dose of the cannabis extract cannabidiol can help reduce brain function abnormalities seen in people with psychosis. Results from a new MRC-funded trial, published in JAMA Psychiatry, provide the first evidence of how cannabidiol acts in the brain to reduce psychotic symptoms. Cannabidiol, also referred to as CBD, is a non-intoxicating compound found in cannabis. A purified form of cannabidiol has recently been licensed in the USA as a treatment for rare childhood epilepsies, and a 2017 King's College London trial has demonstrated cannabidiol has anti-psychotic properties.

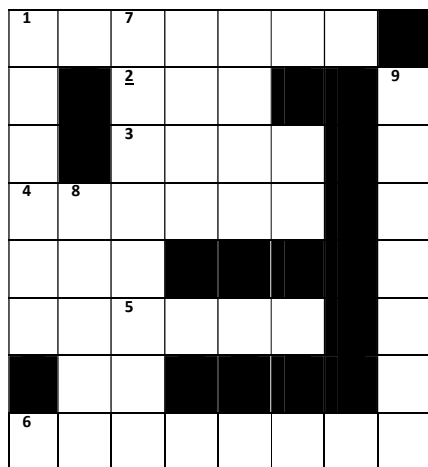
Ref: <https://jamanetwork.com/journals/jamapsychiatry/article->

New method for turning skin cells into pluripotent stem cells

Professor Timo Otonkoski at the University of Helsinki and Professor Juha Kere at Karolinska Institute and King's College London, with their teams of researchers, have now for the first time succeeded in converting skin cells into pluripotent stem cells by activating the cell's own genes. This was achieved by using gene editing technology - called CRISPRa - that can be directed to activate genes. The method utilizes a blunted version of the Cas9 'gene scissors' that does not cut DNA and can therefore be used to activate gene expression without mutating the genome. "CRISPR/Cas9 can be used to activate genes. This is an attractive possibility for cellular reprogramming because multiple genes can be targeted at the same time.

Ref: <https://www.nature.com/articles/s41467-018-05067-x>

FIND THE CROSSWORD



LEFT TO RIGHT:

1. Macromolecule with repeated subunits
2. Guideline for registration of pharmaceuticals
3. Dosage form meant to be swallowed
4. Clear, sweetened, hydroalcoholic liquid
5. A route of administration
6. Substance other than API

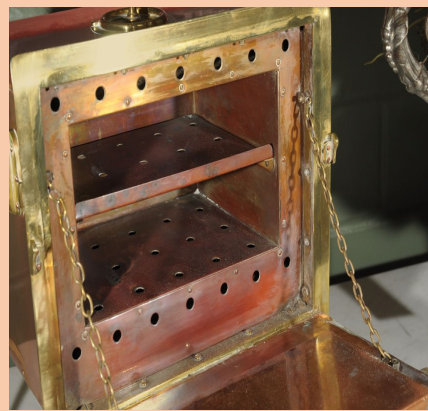
TOP TO BOTTOM:

1. An intellectual property right
7. Atorvastatin innovator brand
8. Substance that is insoluble in water
9. A small container with medicine inside that you swallow

Send your correct answers to psgcp.ceutics@gmail.com.

The first three participants with correct answers will be acknowledged in the next issue.

The Beautiful old (Photo)



Antique French copper autoclave

Novel Drug Approvals

USFDA approved Libtayo with cemiplimab-rwlc as active ingredient to treat cutaneous squamous cell carcinoma (CSCC).

USFDA approved Pifeltro with doravirine as active ingredient to treat HIV-1 infection in adult patients.

USFDA approved Galafold with migalastat as active ingredient to treat adults with Fabry disease (genetic deficiency of alpha-galactosidase A).

Interesting Facts

Glybera (gene therapy treatment for pancreatitis) is the most expensive drug at a wholesale cost of \$1.21 million annually.

The estimated worth of the Indian Pharmaceutical Industry is US\$ 6 billion with the growth rate of 13% per year.

Aspirin is still one of the **most researched** drugs in the world, with an estimated 700 to 1,000 clinical trials conducted each year.

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