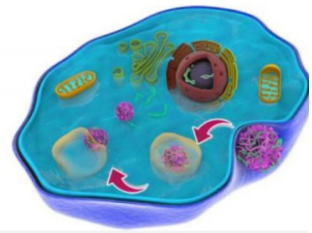
In this issue

PHARMAPEDIA

PSGCP *E-News Letter*

VOL 3 / ISSUE 8 / OCT 2018 - JAN 2019

BIOINSPIRED NANOSCALE DRUG DELIVERY METHOD



Washington State University researchers have developed a novel way to deliver drugs and therapies into cells at the nanoscale without causing toxic effects that have stymied other such efforts. The key issues for gene delivery using nanomaterials are their low delivery efficiency of medicine and potential toxicity.

The researchers developed 150 nanometers sheet of peptoids and added fluorescent probes in their peptoid nanoflowers, so they could trace them and they added the element fluorine, which helped the nanoflowers more easily escape from tricky cellular traps that often impede drug delivery. The flower-like particles loaded with therapeutic genes were able to make their way smoothly out of the predicted cellular trap, enter the heart of the cell, and release their drug there. "The nanoflowers successfully and rapidly escaped (the cell trap) and exhibited minimal cytotoxicity. This paves a new way for us to develop nanocargoes that can efficiently deliver drug molecules into the cell and offers new opportunities for targeted gene therapies.

Ref : https://onlinelibrary.wiley.com/doi/abs/10.1002/smll.201803544

DRUG SPONGE COULD MINIMIZE SIDE EFFECTS OF CANCER TREATMENT

Catheters are used today to deliver drugs directly to tumors to avoid broadcasting toxic chemotherapy agents throughout the body. Nevertheless, half of the drug can escape the rest of the body. A polymer-coated design device that can be temporarily placed in the vein coming out of the liver to absorb unused drugs, potentially lowering risk. The "drug sponge" is an absorbent polymer coating a cylinder that is 3D printed to fit precisely in a vein that carries the blood flowing out of the target organ -the liver in liver cancer. Surgeons snake a wire into the bloodstream and place the sponge like a stent, and leave it in for the amount of time chemotherapy is given.

Ref : https://pubs.acs.org/doi/10.1021/acscentsci.8b00700

GENE-SILENCING TECHNOLOGY GETS FIRST DRUG APPROVAL AFTER 20-YEAR WAIT

US regulators have approved the first therapy based on RNA interference (RNAi), a technique that can be used to silence specific genes linked to disease called hereditary transthyretin amyloidosis. Patisiran targets a rare condition that can impair heart and nerve function. Patisiran works by silencing the gene with the disease RNA molecules in fatty nanoparticles or chemically modifying the RNAs to help them survive the perilous journey through the bloodstream. RNAs protected in this way and injected into the bloodstream.

Ref : https://www.nejm.org/doi/full/10.1056/NEJMoa1716153

FDA APPROVES ONTRUZANT (TRASTUZUMAB-DTTB), A BIOSIMILAR TO HERCEPTIN

Samsung Bioepis Co., Ltd. announced that the U.S. Food and Drug Administration (FDA) has approved Ontruzant (trastuzumab-dttb), a biosimilar referencing Herceptin®[i] (trastuzumab), across all eligible indications, namely adjuvant treatment of HER 2-overexpressing breast cancer, metastatic breast cancer and metastatic gastric cancer or gastroesophageal junction adenocarcinoma in patients who have not received prior treatment for metastatic disease. This is the first oncology biosimilar to receive FDA approval, and will be marketed and distributed in the United States (US) by Merck. Ontruzant® was also approved by the European Commission (EC) in November 2017.

Ref : https://www.drugs.com/nda/ontruzant_171220.html

PHARMA TEASER!!!!!

1. Name the orphan drug approved in 2018 in parentral form for treatment of relapsed T cell lymphoma.

2. Which Indian laboratory recalled vials of Anti – osteoporosis injection due to lack of assurance of sterility in 2016?

3. Name the first prescription drug made through 3D printing.

4. Number of drug s banned in India by the regulatory bodies in 2018.

5. Centre for Drug Evaluation and Research and Centre for Biologics Evaluation and Research made it mandatory in 2017 for the submission of eCTD format for.....

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 Pill Maker

Novel Drug Approvals

USFDA approved "xerava"(antibacterial agent) with eravacycline as active ingredient to treat complicated intra-abdomial infections.

USFDA approved "motegrity" (Enterokinetic agent) with prucalopride as active ingredient to treat chronic idiopathic constipation.

USFDA approved "xospata"(Anticancer agent) with gilteritinib as active ingredient to treat refractory acute myeloid leukemia (AML).

Interesting Facts

Lipitor (Atorvastatin calcium) is the best selling drug of all the time. It was introduced in 1997 and its patent expired in 2011, sales is about $125 billion.

Louis Dufilho of New Orleans became America's first licensed pharmacist to set up shop in early's 1800. Prior to then you did not need a license to become pharmacist.

The global pharmaceuticals market is worth $300 billion for a year.

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