Lambda Research Newsletter

June 2020

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Research Accelerated

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GLOBAL NEWS

1. Scientists discovered unknown function of blood platelets for cancer research

Scientists at Uppsala University have discovered unknown function of blood platelets in cancer. In preclinical study the platelets have proved that they help preserving the vascular barrier which are used in the formation of blood-vessel walls, thereby reducing the spread of tumor cells to other parts of the body. The study is published in the “Journal Cancer Research”.

Platelets are cell fragments that form in the bone marrow and circulate in the blood. When the platelets are activated, which occurs in wounds and also in tumors. The substances known as growth factors contained in the platelets and are released in to their surroundings, one is platelet derived growth factor B (PDGFB).

The researchers have investigated PDGFB in platelets destroyed in individual cancer cell without affecting healthy cell. They have noticed if PDGFB decrease, the quantity of circulating tumor cells increase and they spread to other parts of the body in higher degree.

Source eurekalert.org

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GLOBAL NEWS

2. Bristol's scientists discovered novel brain pathology for neurodegenerative diseases

Scientists from the University of Bristol's Translational Health Sciences have discovered a novel pathology for several human neurodegenerative diseases such as Huntington's disease. The study article is published in "*Brain pathology*".

SAFB1 is a protein used for controlling gene regulation in the brain and have similar structure of other proteins which is associated with neurodegenerative diseases of age. SAFB1 expression is the common sign of spinocerebellar ataxias (SCA) and Huntington's disease (HD).

The researcher have analyzed SAFB1 expression of neurodegenerative diseases in the post-mortem brain, the researchers found that SAFB becomes abnormally expressed in the nerve cells of brain and associated with SCA and HD, both of these conditions are associated with a specific pathology known as polyglutamine expansion, which is only occurs in spinocerebellar ataxias and Huntington's disease.

Source: news-medical.net

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GLOBAL NEWS

3. Researchers discovered novel biomarkers for treatment of preeclampsia

The researchers have discovered two novel biomarkers FKBPL and CD44 for the treatment preeclampsia. Preeclampsia is a pregnancy complication by causing high blood pressure and sign of organ failure. It occurs suddenly in the second half of pregnancy and causes severe health problems for both mother and baby. Preeclampsia also increases the risk of life-long chronic diseases such as diabetes and heart disease. The research is published in the Journal of Clinical Endocrinology and Metabolism.

There are main two types of preeclampsia

- Early-onset preeclampsia diagnosed before 34 weeks of a pregnancy
- Late-onset preeclampsia diagnosed from 34 weeks onwards

Currently, the screening and monitoring are focused on early-onset preeclampsia, which consists of 10-15% of all preeclampsia cases, these two markers are particularly useful for late-onset preeclampsia diagnosis this leads to early diagnosis and prevention of severe preeclampsia and associated in complications including death.

The research has also identified FKBPL biomarkers can be initiated by mesenchymal stem cells and potentially decreasing the development of preeclampsia. For the emerging treatment of preeclampsia, FKBPL and CD44 are the potential drug and cell therapy targets.

Source: healthcare-in-europe.com

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GLOBAL NEWS

4. Newly discovered biomarkers for detection of endometrial cancer

The professor of QUT Faculty of Health's School of Biomedical Science have developed and optimized a new technique to detect a gene variant that leads to endometrial or uterine cancer. Newly discovered biomarker and diagnostic method will enable to detect tumor type and prevent cancer from attacking other parts of the body.

The new biomarker can used to develop therapies to precisely target the cancer before it spreads to other parts of the body.

The biomarker is based on a variation of the gene Fibroblast Growth Factor Receptor 2 (FGFR2) and it was expressed in 40% of 386 patient tumor.

FGFR inhibitors have been approved in the United States for treatment of other cancers (bladder and bile duct cancers).

Source: news-medical.net

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PHARMA INDIA

1. CCMB researchers identify A2A and A3I coronavirus strains

The researchers at the Centre for Cellular and Molecular Biology (CCMB) have identified 11 different types of COVID-19 virus strains spreading across the world, and also found two different types of corona virus strains A2A and A3I are widely spreading across India.

As part of the research, to identify the behavior of the virus and how it is mutated, the researchers have collected 1,031 genomes from across India and analyzed them. The majority of the Indian populations infected with A2A virus strain followed by A3I virus strain in the patients.

The scientists have discovered A2A virus strain which is found among the 60% of infected patients across the world and it is also spreading widely in India.

As the virus is transmitted from one person to another, it is getting fast mutated and from A3I strain it is getting mutated to A2A.

Source: pharmabiz.com

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PHARMA INDIA

2. Gujarat FDCA issues test license of remdesivir to treat COVID-19

The Gujarat Food and Drug Control Administration (FDCA) has received test license for manufacturing of lyophilized injection of remdesivir to treat COVID-19 patients in Gujarat.

Lyophilized injection is considered as an alternative oral solid dosage forms for in hospitalized patients. Injections are prescribed to attain maximum bioavailability and stability in patients which are suffering from diseases.

Drug based on a loan licensing agreement, test license is a prerequisite for the company to further manufacture lyophilized injection of remdesivir.

Form 29 is a license to manufacture drugs for the purpose of examination testing and analysis. The applicant cannot perform any manufacturing activity other than for examination, testing and analysis purpose in the proposed manufacturing site.

The Drug Controller General of India (DCGI) has already approved Hetero's remdesivir for the treatment of COVID-19 patients. Remdesivir is available in 100 mg vial (injectable) and administered intravenously in a hospital setting under the supervision of a healthcare practitioner.

Source: pharmabiz.com

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PHARMA INDIA

3. ICMR invites research proposals for prevention of cancer

The Indian Council of Medical Research (ICMR) has invited research proposals under Global Alliance for Chronic Diseases (GACD) for implementation research on primary and secondary prevention of cancer.

The goal of this programme is to accept and scape up the improvement in accessible, affordable and improve the prevention an early diagnosis of cancer in real life setting, and focus on implementation research for the primary and secondary prevention of cancer in Low-and Middle-Income Countries (LMICs) and in populations facing conditions of vulnerability in High-Income Countries (HICs).

The estimation of 30 to 50% of cancers are preventable. Researchers, public, patient and community groups and other relevant stakeholder groups are eligible for these proposals.

Source: pharmabiz.com

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PHARMA INDIA

4. CDSCO to replace words 'chemists and druggists' with 'pharmacists'

The Central Drugs and Standards Control Organization (CDSCO) has prepared a draft for replacing the words 'chemists and druggists' with 'pharmacists'. The replacement of words would give better professional recognition to the chemists and druggists.

The replacement of words will be in rule 65 (15)(b) of the Drugs and Cosmetics Rules, 1945. The change is mandated by the association as the word 'Pharmacists' gives an instant acknowledgment to the dedicated retail outlets vending medicines.

Rule 65 (15)(e) restricts the name only to a place where compounding of medicines are carried out. The compounding of medicines by registered medical practitioners ceases to exist with a capable pharma industry in place in the country. Therefore it would be more practical to rename the service of druggists and chemists as pharmacy.

Source: pharmabiz.com

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REGULATORY ROUND-UP

1. International regulators agree for collaboration in the context of COVID-19

The European Medicines Agency (EMA) and Health Canada under the International Coalition of Medicines Regulatory Authorities (ICMRA) have organized an observational studies of real-world data generated during clinical practice in the context of COVID-19 at a second workshop.

The international regulators have agreed to step up their cooperation in the following three areas:

- To examine the impact of both coronavirus disease and medication use in pregnant women, in order to support COVID-19 medicine development, risk management, and planning for safety monitoring of vaccines and therapeutics.
- Developing international clinical cohorts of COVID-19 patients to share expertise and increase study power and data quality to meet regulatory requirements and address existing knowledge gaps.
- Develop strong infrastructure for monitoring the safety and effectiveness of vaccines against COVID-19 in order to rapidly detect and minimize risks to patients.

The participants have been agreed that global collaboration on observational studies of real-world data will help not only to contribute to the COVID-19 response but also to leave enduring legacy for future international observational research beyond the ongoing pandemic.

Source: worldpharmanews.com

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REGULATORY ROUND-UP

2. MHRA and FDA release joint paper on data integrity

For data integrity of global clinical trials the MHRA and FDA GCP Inspectors have released joint paper, the paper is published in the "*Journal of Clinical Pharmacology and Therapeutics*".

According to the agency, the data reliability could lead to rejection of data used in submissions, but it can create significant safety risks.

The paper describes:

- The need for robust processes to manage data
- Issues that impact data integrity (audit trails, maintaining the study blind and general data management practices)
- Case studies where MHRA and FDA have raised concerns during inspection

MHRA also said that a further joint paper with the FDA will be released, the second publication will discuss topics like sponsor oversight, electronic source documents, protocol deviations and data quality in novel clinical trial designs.

Source: gmp-compliance.org

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REGULATORY ROUND-UP

3. Latest MHRA'S GVP inspection matrix published

The MHRA´s Good Pharmacovigilance Practice (GVP) has recently published their latest inspection metrics for the period from April 2018 to March 2019. The PV inspection metrics have been carried out annually.

During reporting 18 marketing authorization holders (MAHs) inspections were carried out, all the data are involved in inspection conducted reports.

Of the 18 inspections conducted, two inspections were triggered by critical findings from previous inspections and 16 inspections were carried out in line with the routine national or EMA inspection schedule. Nine of those were inspections of MAHs that had never been inspected before by the MHRA. The remaining seven inspections were routine re-inspections of MAHs.

Nine inspections included as remote inspection. During the period, 78 major and 38 minor finding were identified, one critical finding was reported in relation to the quality management system (QMS) and a critical finding was made regarding the provision of information for inspections.

Source: gmp-compliance.org

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REGULATORY ROUND-UP

4. New GDP monograph has been published

The interpretation and improvement of Good Distribution Practice for active substances guidance has been published as a joint publication of the ECA Foundation's GDP Association and the Pharmaceutical Quality Group of the Chartered Quality Institute. The monograph is based on the European Commission Guidelines.

The original text is quoted verbatim and appears contrasted in color.

The monograph provides:

- The rationale of each section
- Discussion on the benefits and risks associated with each section
- Recommendations regarding improvements
- The document involved some figures providing diagrammatic representations
- Glossary with abbreviations and definitions
- Bibliography with useful links

Source: gmp-compliance.org

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MERGERS /ACQUISITIONS /COLLABORATIONS

1. Novo Nordisk buying Corvidia for the treatment of cardiovascular disease

Novo Nordisk is the world's biggest producer of diabetes medications. It is buying the Waltham biotech Corvidia Therapeutics in $725 million as the Danish pharmaceutical expands its business beyond diabetes drugs to pursue new treatments for cardiovascular disease.

Corvidia's experimental medicine ziltivekimab is reduced the risk of heart attacks in patients with chronic kidney disease. Nordisk believe that ziltivekimab has the potential to become a first- and best-in-class treatment to lower the risk of cardiovascular disease.

According to the agreement, the company will acquire all outstanding shares of Corvidia for $725 million and corvidia will receive a total of $2.1 billion.

Source: bostonglobe.com

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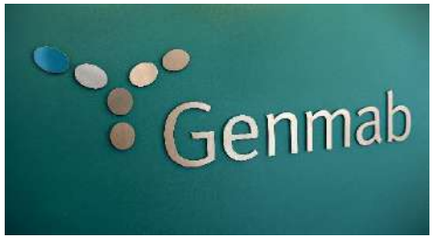
MERGERS /ACQUISITIONS /COLLABORATIONS

2. AbbVie collaborated with Genmab to develop antibody therapeutics for cancer

AbbVie has collaborated with biotechnology company Genmab to develop and commercialize antibody therapeutics for cancer.

Both the companies work together on three antibody drug candidates, epcoritamab, DuoHexaBody-CD37 and DuoBody-CD3x5T4, and also to discover new antibody therapeutics.

According to the collaboration, Genmab's discovery and development and drug antibody candidates will be merged with AbbVie's clinical expertise, antibody-drug conjugate (ADC) platform and global commercial footprint in hematological cancers.



The goal of the both companies to identify and develop up to four new differentiated antibody candidates to treat cancer.

Genmab's DuoBody-CD3 technology is designed specifically to trigger an immune response against malignant tumor cells and AbbVie's ADC technology is to directly deliver a therapeutic toxin to cancer cells without damaging healthy cells.

According to the agreement, Genmab will receive an upfront payment of $750m, which is also eligible for up to $3.15bn in additional development, regulatory and sales milestones.

Source: newsday24.com

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MERGERS /ACQUISITIONS /COLLABORATIONS

3. Carmine Therapeutics signed agreement with Takeda Pharmaceutical

Carmine Therapeutics has signed collaboration agreement with Takeda Pharmaceutical Company Limited to discover, develop and commercialize transformative non-viral gene therapies for two rare disease.

The development of targets using Carmine's REGENT(TM) technology based on red blood cell extracellular vesicles and Takeda will support in the development of novel REGENT(TM) platform.

According to the agreement, Carmine will receive an upfront payment over $900M. Takeda has an option to license the following of pre-clinical proof of concept studies and responsible for clinical development and commercialization.

Source: menafn.com

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MERGERS /ACQUISITIONS /COLLABORATIONS

4. Oxford Biomedica collaborated with VMIC

Oxford Biomedica has collaborated with the Vaccines Manufacturing and Innovation Centre (VMIC) for the development of strategic vaccines and advanced manufacturing capability. The company will collaboratively work to facilitate the manufacture of viral vector based vaccines for specialized type of vaccine manufacturing.

Oxford Biomedica and VMIC are both focuses on GMP manufacture of the adenovirus vector based COVID-19 vaccine candidate AZD1222.

According to the agreement, VMIC will provide manufacturing equipment for Oxford Biomedica and to provide significant additional manufacturing capacity and enable further scale up for AZD1222 from the summer of 2020.

Oxford Biomedica will provide training and technical assistance to VMIC staff at the Harwell Science and Innovation Campus, and also Oxford could rapidly provide its commercial scale manufacturing capacity to supply other novel viral vector vaccine candidates for the UK population, if needed.

This collaboration partnership allows for established and also accelerates utilization of another two GMP manufacturing suites within our new commercial manufacturing facility.

Source: pharmatimes.com

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DRUGS: APPROVALS AND LAUNCHES

1. Glenmark gets approval for favipiravir for treatment of COVID-19

Glenmark Pharmaceutical Ltd has received Indian regulatory approval for treating mild to moderate COVID-19 infection. The drug approval was the part of accelerated approval for restricted emergency use, patients must sign their consent before treated by the drug.

Japan's Fujifilm holdings makes favipiravir under the brand name Avigan for the potential COVID-19 treatment.

Across the world drug makers have been rushing to develop a treatment for the novel corona virus. India is become the fourth hit country and increasing corona virus infection day by day.

Favipiravir has approved in India based on evaluation of data, Glenmark's favipiravir plans to sell as FabiFlu.

Source: reuters.com

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DRUGS: APPROVALS AND LAUNCHES

2. FDA approves dispersible tablet formulation for HIV children

The FDA has approved dolutegravir tablets and tablets for oral suspension to treat HIV infection with the combination of other antiretroviral agents in pediatric patients at least 4 weeks old and weighing 3kg or more.

HIV infection progress more quickly in children than adults, while the incidence of pediatric HIV infections continues to decline, the availability and early initiation of effective treatment for infants and children living with HIV.

The drug approval is based on data from a trial of 75 infants, children and adolescents aged 4 weeks to less than 18 years old with HIV

At 24 weeks, sixty two percent of pediatric patients treated with either tablet formulation had an undetectable viral load, and at 48 weeks 69% had observed. The safety profile was found similar with the adult patients.

Source: healio.com

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DRUGS: APPROVALS AND LAUNCHES

3. USFDA approved Roche's phesgo to treat HER-2 positive breast cancer

The US Food and Drug Administration (FDA) has approved Roche's phesgo a fixed dose subcutaneous injection with a combination of IV chemotherapy for the treatment of early and metastatic HER2-positive breast cancer.

Phesgo is a combination of pertuzumab and trastuzumab with hyaluronidase and it is administered as SC injection.

The FDA has approved Phesgo is based on phase III FeDeriCa an international, multi-center, two-arm, randomized, open-label clinical trial, and met primary and secondary endpoints.

Source: ns-healthcare.com

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DRUGS: APPROVALS AND LAUNCHES

4. MSD's Keytruda received US approval for cSCC

MSD's Keytruda (pembrolizumab) monotherapy has received the USFDA approval for the treatment of patients with recurrent or metastatic cutaneous squamous cell carcinoma (cSCC).

Cutaneous squamous cell carcinoma is the second most common of skin cancer. Keytruda is an anti-PD-1 therapy that increasing the ability of the body's immune system and to help detect and fight tumor cells.

Drug approval is based on Phase II KEYNOTE-629 trial, in which Keytruda has shown meaningful efficacy and durability of response with 34% of overall response, and 69% had ongoing responses. After a median follow-up time of 9.5 months, the median duration of response (DOR) had not been reached.

Source: pharmatimes.com

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DRUGS: DEVELOPMENT & CLINICAL TRIALS

1. Researchers develop technique for stomach cancer therapy

The researchers at the Moscow Institute of Physics and Technology have developed technique for stomach cancer therapy based on RNA sequencing of tumor cells. The study was published in "*Cold Spring Harbor Molecular Case Studies*".

Stomach cancer is the fifth-deadliest disease. There are several treatment options are available, which is depends on chemotherapy and therapeutic antibodies.

Tumor of the stomach can be treated with therapeutic antibody, they block the receptors of the surface cell that are responsible for receiving growth promoting signals. Ramucirumab is a therapeutic antibody used to retard the growth of blood vessels in tumor cell.

The researchers enable to collect qualitative data on the expression of every gene in a cell using combined with information technology and modern molecular biology.

Source: news-medical.net

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DRUGS: DEVELOPMENT & CLINICAL TRIALS

2. Roche meets primary endpoints in Phase III trial

Roche has conducted phase III IMpassion031 study to evaluate Tecentriq in combination with chemotherapeutic drugs (Abraxane, albumin-bound paclitaxel, nab-paclitaxel, followed by doxorubicin and cyclophosphamide) in comparison to placebo with Abraxane for the treatment of triple-negative breast cancer (TNBC).

Tecentriq is a monoclonal antibody, it is bind with PD-L1 protein, which block its interactions with both PD-1 and B7.1 receptors.

In this Phase III, multicenter, randomized, double-blind study has enrolled 333 people with previously untreated TNBC, who have received Tecentriq with chemotherapy prior to surgery as neoadjuvant setting and continued drug combination after surgery as adjuvant treatment in comparison vs. placebo control group.

The primary endpoint is pCR in the intention-to-treat (ITT) population and in the PD-L1-positive population and the secondary endpoints are overall survival (OS), event-free survival, disease-free survival and quality of life measures.

Source: pharmabiz.com

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DRUGS: DEVELOPMENT & CLINICAL TRIALS

3. AstraZeneca's Breztri Aerosphere showed improvement in exacerbations

AstraZeneca has conducted Phase III ETHOS trial to evaluate safety and efficacy of triple-combination drug therapy Breztri Aerosphere (budesonide/glycopyrronium/formoterol fumarate) for the treatment of severe chronic obstructive pulmonary disease (COPD). The study is published in the "*New England Journal of Medicine*".

Globally, the chronic obstructive pulmonary disease is the third leading cause of mortality and exacerbations leads to mortality in these patients. According to the data of Phase III ETHOS trial Breztri Aerosphere achieved 24% reduction in exacerbations in comparison to 13% reduction with Bevespi Aerosphere (glycopyrronium/formoterol fumarate).

The secondary endpoint showed a 46% reduction in the risk of mortality compared with Bevespi Aerosphere.

The most common adverse events reported in this study were nasopharyngitis, COPD and upper respiratory tract infection. Pneumonia was observed in 4.2% with Breztri Aerosphere, 2.3% with Bevespi Aerosphere and 4.5% with PT009.

Breztri Aerosphere is approved in Japan and China for patients with COPD, and is under regulatory review in the US and EU.

Source: pharmatimes.com

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DRUGS: DEVELOPMENT & CLINICAL TRIALS

4. Rinvoq is potential for atopic dermatitis

AbbVie has presented its Phase III trial data that showing Rinvoq (upadacitinib) monotherapy is induced significant improvements in skin clearance having patients with atopic dermatitis.

Atopic dermatitis is the condition that makes skin red and itchy and often patients struggle with relentless.

In this study patients received the drug at dose 15mg or 30mg and achieved 75% improvement in the Eczema Area Severity Index vs. 16% in the placebo group at week 16.

Also 48% and 62% respectively, achieved a validated Investigator's Global Assessment for Atopic Dermatitis of clear or almost clear at week 16, versus 8% of patients receiving placebo. Clinically reduction in itch is maintained through week 16 compared with placebo controlled group.

Rinvoq was already approved last year for rheumatoid arthritis. Phase III trials of Rinvoq in atopic dermatitis, rheumatoid arthritis, psoriatic arthritis, axial spondyloarthritis, crohn's disease, ulcerative colitis and giant cell arteritis are ongoing.

Source: pharmatimes.com

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PATENTS: NEW APPROVALS /LITIGATIONS /SETTLEMENTS

1. Kymab wins UK court case patent claims

The Supreme Court of the UK has believed that all of the claims of two patents EP (UK) 1 360 287 and EP (UK) 2 264 163 owned by Regeneron Pharmaceuticals against Kymab are invalid. The question regarding two patents are known as Murphy patents.

The Murphy patents sought to cover genetically modified mice containing chimeric human-mouse antibody and the human antibodies. The European Patent Office (EPO) had previously support them but not considered evidence to the UK courts.

The decision of the high court judge has void the claims and reverses the appeal court's determination that they were valid. A five-member panel of the court heard arguments on February 2020.

The relevant claims of the Murphy patents were invalid for insufficiency. The court observed that Kymab's ability to create transgenic mice with the entire human antibody variable region depended upon Kymab's own inventions made separately after the priority of the Murphy patents.

Murphy patent's counterparts have also litigated by third parties in the US because of an equivalent was found to be invalid. The US Patent Office's Patent Trial & Appeal Board (PTAB) has rejected five petitions filed by Regeneron and their claims.

Source: europeanpharmaceuticalreview.com

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PATENTS: NEW APPROVALS /LITIGATIONS /SETTLEMENTS

2. Amarin patent settlement litigation with Apotex

Amarin Corporation plc has announced that they have settlement agreement with Apotex Inc to resolves previously patent litigation disclosed abbreviated new drug application (ANDA) filed by Apotex.

According to settlement agreement Apotex may not sell a generic version of VASCEPA in the US until 9 August 2029 or earlier under certain customary circumstances, in such circumstances if Amarin is not successful in its pending appeal after following any federal circuit rehearing and bank review.

The agreement also resolves future litigation with Apotex regarding cardiovascular risk reduction indication of VASCEPA based on the REDUCE-IT® study.

This settlement involves no financial payment from Amarin to Apotex and to avoid incremental litigation expense and distraction associated with Apotex's participation in patent litigation related to the MARINE and REDUCE-IT indications.

Source: globenewswire.com

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PATENTS: NEW APPROVALS /LITIGATIONS /SETTLEMENTS

3. Merck filed patent infringement against Dr Reddy's Laboratories

Merck has filed the patent infringement against Dr Reddy's Laboratories in the United States District Court, an alleging that the Indian drug maker was planning to come out with the generic versions of its multi-billion-dollar drugs, Januvia and Janumet, before patent expiration.

Merck said that the Dr Reddy's had submitted abbreviated new drug application to the USFDA for the approval of commercial manufacturer, sale and importation of generic drug prior expiration.

Januvia and Janumet which are used to control the type 2 diabetes over $5.5 billion revenues globally including $2.3 billion in the USA in 2019. Patents of Januvia and Janumet will expire in July 2022 for the US with six-month pediatric exclusivity.

Source: medicaldialogues.in

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PATENTS: NEW APPROVALS /LITIGATIONS /SETTLEMENTS

4. Merck claimed against Angel Pharma

Merck has claimed the Angel Pharma is to manufacture the active pharmaceutical ingredient (API) of its patent diabetic drug sitagliptin.

The Delhi High Court has restrained Angels Pharma from infringing Merck's patent right of Sitagliptin and its intermediates or any product.

After hearing the facts the court said that, at least at this stage, the plaintiffs have been able to establish a prima facie case in their favor.

Source: medicaldialogues.in

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TECHNOLOGY /NDDS

1. Blood Vessel Networks using laser-sintering powder sugar

The researchers at the Rice University and others have developed highly detailed structures that can hold live cells and keep them alive for weeks using laser-sintering of powdered sugars, the aim of this development is to study complex functionality of bunch of cells.

Using sugar templates, the researchers took hydrogels loaded with living cells and developed vessel networks. These networks pumped with oxygen and nutrients and the vessels were able to sufficiently supply most of the cells so that they remained vibrant and kicking for at least two weeks. This was conducted in liver cells.

The major benefits of this new way is the speed at which each tissue structure can be generate, in addition of this new 3D printing technique the researchers have developed custom algorithm that can be used to generate complexity of large networks.

Source: medgadget.com

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2. Robotic nurse for Covid-19 screening

Coimbatore innovators and entrepreneurs had developed robotic nurse that served food and medicines to the patients, now the robot can take nasal and throat swabs from suspected patients.

This robotic nurse can be monitored, controlled and operated through a mobile application, and keep maintaining distance from the patients. The professional healthcare cannot exposed to the risk of infection because of this robot is completely automated.

The cost of this robot is only 2,000 Rs. This invention is beneficial for healthcare workers to ensure that they don't get infected while taking samples.

Source: health.economictimes.indiatimes.com

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3. Automated software for diagnosis of cervical cancer

The researchers at the Institute of Advanced Study in Science and Technology (IASST) from India have developed a fully automated software-based solution for the detection of cervical cancer using pap smear images.

Pap smear images is used to detect abnormal growth or development of tissues in the cervix and early detection of cervical cancer.

The researchers put together a database of two types of indigenous pap smear images databases and used one each for conventional and Liquid Based Cytology (LBC) to create algorithms with the images of different qualities.

The researchers have also used Bethesda system for pap smear diagnosis and adopted two artificial intelligence (AI) approaches (machine learning and deep learning) for software development.

The Department of Science and Technology (DST) has said that the team has developed a novel classification algorithm with 98.8% accuracy, which can identify precancerous and cancerous cells.

Source: medicaldevice-network.com

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4. Injectable retinal prosthesis for the treatment of retinal diseases

ISTITUTO ITALIANO DI TECNOLOGIA

The scientists from the Italian Institute of Technology have developed injectable retinal prosthesis for the treatment of retinal diseases such as age-related macular degeneration, retinitis pigmentosa, and other conditions.

Currently, a number of technology available to increase the functions of retina, but most of depends on wearable cameras, special glasses, computers, and wiring to interface with the eye, to remove this hurdle researchers have developed injectable retinal prosthesis that directly works on diseased photoreceptors.

This new approach depends on photoactive polymeric nanoparticles that are one hundredth diameter of human hair and behave like photovoltaic cells, which is suspended in a liquid and injected under the retina. The preclinical trial is already done and the nanoparticles were confirmed to have spread out the retina and returning the functional vision of the animal.

The experimental results highlight the significant relevance of nanomaterials in the development of second-generation retinal prostheses to treat degenerative retinal blindness. The development of liquid artificial retinal implant has potential to ensure high-resolution vision. Enclosing the photoactive polymers in particles increases the active surface of interaction with the retinal neurons and easily cover the entire retinal surface and to scale the photo activation.

Source: medgadget.com

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WHAT'S NEW AT LAMBDA

1. Successful completion of NABL inspection at Lambda path laboratory

Routine National Accreditation Board for Testing and Calibration Laboratories (NABL) inspection was completed of Lambda Therapeutic Research Limited at Ahmedabad for medical laboratory in the field of medical testing. The inspection was carried out on 20-21st June 2020. Overall, the inspection was successful with minor observation.

The NABL accreditation has been received with the standard ISO 15189:2012 from 17th June 2020 to 16th June 2022.

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