

E-babe-bioluminescence bacteria environmental applications

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Luminescent bacteria are microorganisms able to emit blue to green bioluminescence within normal metabolism and depend on the enzyme system of bioluminescence. In the laboratory, luminous bacteria are growing in liquid media. At low cell density, the emitted light is being reduced because of the weak expression of the luxCDABE genes and the precursor's deficiency of the bacterial luciferase reaction. The luminescence tests have the advantages of being rapid, sensitive, costless and reproducible. A variety of microbial bioluminescent biosensors have been designed to detect metal contaminants in the environment. These biosensor systems are becoming appropriate alternatives to the traditional analytical methods including respirometry, measurement of bacterial growth inhibition, chemical analysis, and microscopic analysis. Bio-reporters provide a unique analytical capability because contaminants are

quantified relative to the concentrations experienced by the bio-reporter organism as opposed to being relative to the extraction technique that is used for traditional analysis.

Biography

Abdul-Rhman H Muhammad has completed his master degree from Cairo University and work as research assistant ship at at Environmental Biotechnology Department, Genetic Engineering and Biotechnology Research Institute (GEBRI), Scientific Research and Technological Applications City (SRTA-City). He has published paper in biocatalysis and agricultural biotechnology journal junder titile Studying the behavior of the light-off bioreporter DF4/PUTK2 as a light-on assay against lead, He received the Next Generation Scholars Scholarship, which is granted to outstanding students and top university graduates to study for a master's degree.

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Total quality management includes a set of elements, which are as follows

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Focuses on ensuring that internal guidelines and standards in place minimize errors in the workflow. Considered a systematic approach to overall organizational management, the focus of the process is to improve the quality of an organization's output, including goods and services. TQM focuses on the continuous improvement of internal practices in the organization. Standards developed as part of a TQM approach can reflect both internal priorities and any industry standards currently in place. Industry standards can be defined at multiple levels and may include compliance with the various laws and regulations that govern the operation

of a particular business. Industry standards can also include producing items to understandable standards, even if the standard is not supported by formal regulations..

Biography

Asmaa Ibrahim Ahmed Hewedk is a certificate of graduation from the Faculty of Agriculture in Mashtohur, Benha University and obtained a Bachelor's degree in Agricultural Sciences, majoring in Food Science and also completed a certified quality engineer preparation course and currently studying Master of Food Industries in Department of Food Sciences at College of Agriculture in Zagazig University.

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An update on genome editing with the utilization of CRISPR/Cas 9 system for evaluation and treatment of human diseases-A systemic review

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The CRISPR/Cas9-technique again emerged in 2012 with the generation of the Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)-based gene editing that represents a modulation tool that has been obtained from the defense system of the some bacteria, against viruses in addition to plasmids. This is an economical, simple approach that has got utilized in a lot of experimental models inclusive of cell lines, various laboratory animals, plants, as well as human [Clinical trial](#). The CRISPR/Cas9 system is constituted of guiding the Cas 9 nuclease for generation of site-directed double stranded DNA break with the utilization of small RNA molecules for directing. It is an event that results in permanent manipulation of the genomic target sequence which can heal the injury that occurs in the DNA. Thus here we conducted a systematic review utilizing search engine PubMed, Google scholar and others utilizing the MeSH terms like zinc finger nucleases; TALENs; CRISPR/Cas9 system; DSB; genome editing; trans-encoded small cr RNAs(tracr RNAs); single guide gRNA; protospacer adjacent motif(PAM); endonuclease; HNH domain; RuvC-like nuclease domain; insertions along with deletions(indels); dead Sp- Cas9(dSp- Cas9); n Sp- Cas9(n Cas9);]. Hirschsprung's disease; megacystis-microcolon- intestinal hyperperistalsis syndrome(MMIHS); β-haemoglobinopathies, sickle cell disease(SCD); β thalassemia, is human papilloma virus(HPV); human immunodeficiency virus(HIV); Hepatitis B virus(HBV); cancers; neurological diseases; from 1990 to 2021 till date. We found a total of 2050 articles out of

which we selected 141 articles for this review. No meta-analysis was done. Here we present app approaches as well as manipulations of enzyme Cas9 for removal of off target cuts away the various applications of CRISPR/Cas9 system for looking besides activation as well as repression. Furthermore, we outline the therapeutic aspects besides the latest updates in their utilization in various [human diseases](#).

Keywords: CRISPR/Cas9 system, tracr RNAs, PAM, Hirshsprung Disease, HPV, HIV, Mitochondrial diseases, Breast cancer.

Biography

Kulvinder Kochar Kaur is the scientific director of Dr Kulvinder Kaur Centre For Human Reproduction, Jalandhar, Punjab, India, where she manages the complicated cases of infertility. She graduated from LHMC Delhi in 1980 topping in medicine in all 3 medical colleges thereby getting the DR Devi Chand Gold medal from the late PM Smt Indira Gandhi and also topped in all the MBBS subjects prior to that eg., anatomy, pathology, biochem etc making her basics sound and later she managed the endocrine clinic in PGI Chandigarh during her MD days. Following that she reported the 40th world case hydrometrocolpos working in Saudi Arabia and has been working in the field of neuroendocrinology of obesity. GnRH control along with role of kisspeptins, prokineticins in human reproduction, AIDS & Cancer –during this period, she managed to successfully treat the first case of non-gestational choriocarcinoma of uterine body in a young girl medically thereby preserving her fertility-the first case in world literature of its kind.

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Quality control vs. Quality assurance of food production; why do systems fail?

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Quality is equally a subjective and objective attribute, is not only about our expectations as consumers but the commitment of the producers, distributors and retailers, to meet these expectations, keeping the products always safe. The development and implementation of quality system has been a requirement that has grown in parallel with the need of food production at any scale, but especially at industrial ones. To guaranty and preserve the quality in the food production, is a burden that cannot be avoid by any producer, but the impact is bigger in those whose production volumes are small. There has been important development in Quality Systems that actually work and are easily available for everyone (or at least this is the way it should be) regardless the size of the food producing company. It is not a secret that large companies are able to develop and implement their own quality management systems, which can be even more effective and precise. Nevertheless when we look at the events related to food recalls incidents from 2021; both small and big companies are equally failing. There is no such thing as

a perfect system. A good system should be able to evolve and adapt to the changing circumstances, but at the same time preserve all the knowledge and capabilities from previous iterations. Nothing is too big to fail and there's always a first time, for things to go wrong. These are some of the reasons why systems fail but there are others. This work is a review of some of the quality management systems failures related to the food producers during the past year and possible ways to prevent them.

Biography

Edgardo Carrillo Cabrera is a Food quality and safety management consultant with over 20 years of experience in Food science and technology. Have worked in Research and Development and Quality Systems Management in the Food Industry, Master's degree in Food engineering, Specialist in dairy products technology, Researcher and Chemical engineer. Areas of expertise: Food Quality and Food Safety, Food quality management systems (Nestlé, Mars and BRC), HACCP, Cheese manufacturing, Dairy and dairy derivatives technology, R&D.

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Cure a cancer by using caspase-3 protein

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We all start life as one single cell than cell divides cell form tissues, tissues form organ and organ form a complete body system. Basically cancer is a group of diseases characterized by a abnormal cell growth. In a healthy body system cell grow and die normally in a very controlled way. Damage or change in the DNA of cell by environmentally or internal factor. Sometime cells do not die and continue to multiply until a tumor or cancer develops. The most important and notable point is cancer is still the leading causes of death for people under the age of the 85. For cancer treatment usually a combination of surgery to remove a tumor and sometime chemotherapy and radiation to kill any types of cancer cells. Hormone therapies, Immunotherapy and cancer drug treatment for specific types of cancer. Actually intrinsic pathway will lead to the destruction of the cell that is the function of program cell death. When cell goes any types of problem like DNA damages it try to kill itself the process is start from the mitochondria the target is mitochondria for example DNA is damage that act as a signal. There are certain

molecules that are found inside the cell who sense the DNA damage some are protein like ATM protein or CHK protein. Now the cytochrome c bind with a protein called A-paf1 they can activate the set of protein called cascade reaction than cytochrome c and A-paf1 activated a caspase-9 and caspase-9 activated a caspase-3. The caspase-3 activated future nucleases enzyme and proteases enzyme after the activation of nucleases enzyme cell cannot be survive. If we can deliver a caspas-3 protein in cancerous cell by using different types of solute carrier the cell automatically activate nucleases enzyme nucleases find the DNA and start degrading the DNA and cell cannot survive.

Biography

Umair Masood is currently working at GENCEST Biotech Private Limited company at Islamabad, Pakistan. He has published many articles in international journals.

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Food safety awareness, practices and their implications: A study of home food preparers in Aurangabad District

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The objectives of this paper were to explore the inclusion of food preparation activities, as well as to determine their understanding of food-related risks, food safety knowledge, and self-reported practices among people. A representative selection of 240 home cooking preparers was chosen at random from rural and urban areas of the Aurangabad, and questionnaires regarding food safety awareness, techniques, and attitude was addressed. The finding showed that almost all of the respondents were well-informed on food safety (9.25/15). Participants over 45 years old (10.05), graduate students (12.60), those in the urban group all have had greater average awareness scores (10.88). These categories also reported a better attitude towards food safety. The trend of freelancing labeled and processed food products was much more common in metropolitan areas than those in rural

places. The urban affluent group (105.20), participants aged >45 years (95.74), and postgraduate graduates all had high practices scores (107.98). A significant positive correlation among food safety standards and awareness ($p < 0.01$), but at the other hand, indicated those with superior food safety awareness were more likely to adopt appropriate food safety precautions. The traces of no recommended pesticides were found in the all-vegetable samples, according to the pesticide analysis of a packaged food.

Biography

Vikas Shukre was currently working as Biotechnology and involved in teaching as assistant professor in department of Plant Biotechnology and has given many presentations in various conferences.

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Molecular mechanisms underlying immuno-modulation of PDT in dermatological melanoma

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Increased exposure to the ultra violet radiation (UVR) from the sun, as well as lack of proper consciousness, has led to fatal malignancy with an increased mortality rate in the last ten years due to skin melanoma development, especially in people with fair and light skin. The current treatment scheme for melanoma includes chemotherapy, radiotherapy and surgery. Tumorigenesis is complex and dynamic at three levels: initiation, progression and metastasis. In addition, there is a tight connection with the tumors, the tumor microenvironment (TME) and the extracellular matrix, in each level (ECM). Photodynamic therapy (PDT) is a minimum-invasive therapy, which combines the use of a photosensitizer (PS) with laser exposure. When the laser beam of a specific wavelength is exposed to photosensitizers, it produces reactive oxygen free radicals which can kill the exposed cells in the vicinity. A specific wavelength enables each photosensitizer to produce its action. This wavelength can determine the extent to which the light can pass through the body. Moreover, PDT is associated with immune-stimulation that inhibits cancer progression through apoptosis and tumor cell necrotization. Immune system stimulation can be detected with several biomarkers like IL10, IL12, TGF- β and TNF- α .

This work aims at studying some of the genetic markers

involved in the molecular mechanisms of PDT mediated immunomodulatory treatment of skin melanoma. Our target is to explore the relation between PDT as a recent efficient method for treating oncogenic tumors and the role of a tumor microenvironment in monitoring the development of skin cancer.

Key Words: Skin Cancer, PDT, Tumor Microenvironment, Immunomodulation, Tumor Markers

Biography

Iman O Gomaa had her BSc in Biology at the Faculty of Science, Cairo University. She was awarded research fellowship from the European Union Community (EUC) to conduct her M.Sc. between Cairo Uni. & Panum Institute, Copenhagen University –Denmark. She then fulfilled her PhD between Ain Shams Uni. & the Medical School of the Technical University of Munich, Germany through a DAAD scholarship. This was followed by four years of postdoctoral studies between Mount Sinai School of Medicine, NY - USA and the Faculty of Medicine, Marie Curie University, Paris - France. She is currently an associate professor of Molecular and Cell Biology at the Molecular Biotechnology Program – Galala University. She has 20 peer-reviewed publications (Journals + Book Chapters), in addition to a worldwide patent. Her research interest is directed towards molecular oncology and is dedicated to basic science, besides applied research to improve early diagnosis and prognosis of cancer.

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