

Science of the future therapies!

1. Step in the sphere of gene therapy!



Link: <https://www.yourgenome.org/facts/what-is-gene-therapy>

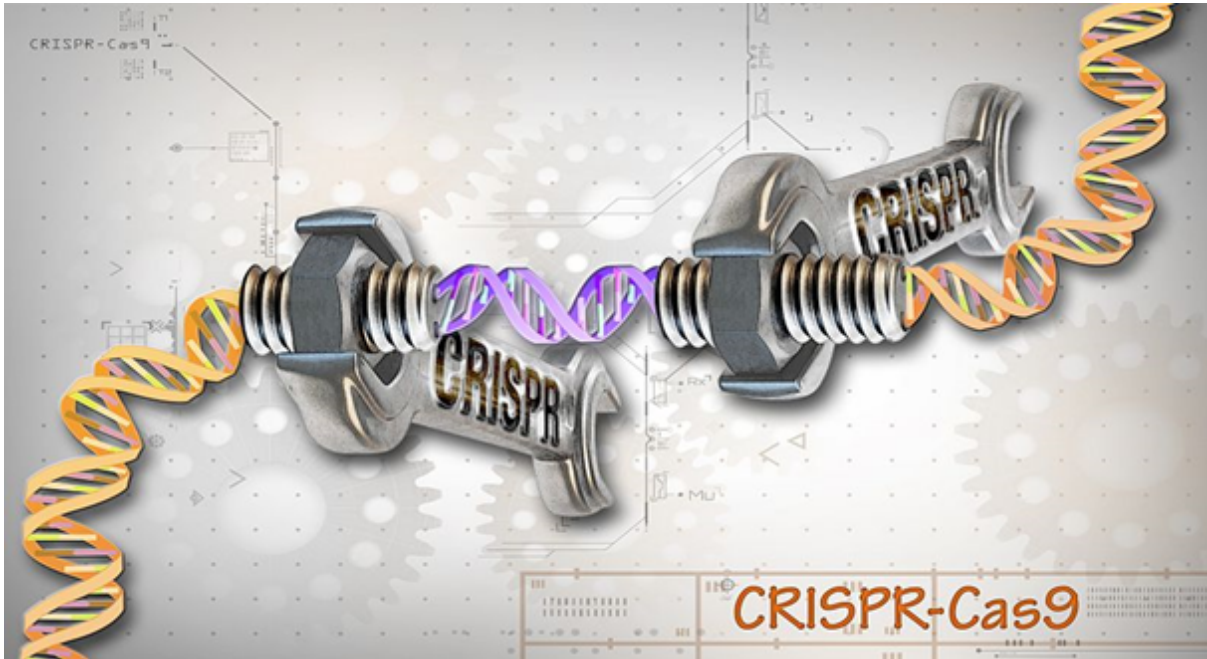
Picture:

<https://www.publicdomainpictures.net/pictures/40000/nahled/--1359709322C31.jpg>

Introduction: Human gene therapy seeks to modify or manipulate the expression of a gene or to alter the biological properties of living cells for therapeutic use. It holds promise for treating a wide range of diseases, such as cancer, cystic fibrosis, heart disease, diabetes, haemophilia, and AIDS. Therefore, gene therapy continues to be a very important and active area of research aimed at developing new, effective treatments for a variety of diseases.

Click on the link below and make the first step into the gene therapy!

2. CRISPR time is coming!



Link: <https://www.livescience.com/58790-crispr-explained.html>

Picture: [https://commons.wikimedia.org/wiki/File:CRISPR-Cas9_Editing_of_the_Genome_\(26453307604\).jpg](https://commons.wikimedia.org/wiki/File:CRISPR-Cas9_Editing_of_the_Genome_(26453307604).jpg)

Introduction: Did you hear for CRISPR – the most powerful targeted genome editing tool which allows researchers to do gene knockout, knockin SNPs insertions and deletions in cell lines and animals? No? Yes? How it can be introduced in future therapy? There are so many questions about CRISPR on which researchers seek the answers.

Keep in step with the science, read the article below and find out what CRISPR really is and what are his utility and limitations.

3. Epigenetic therapy, what is that?



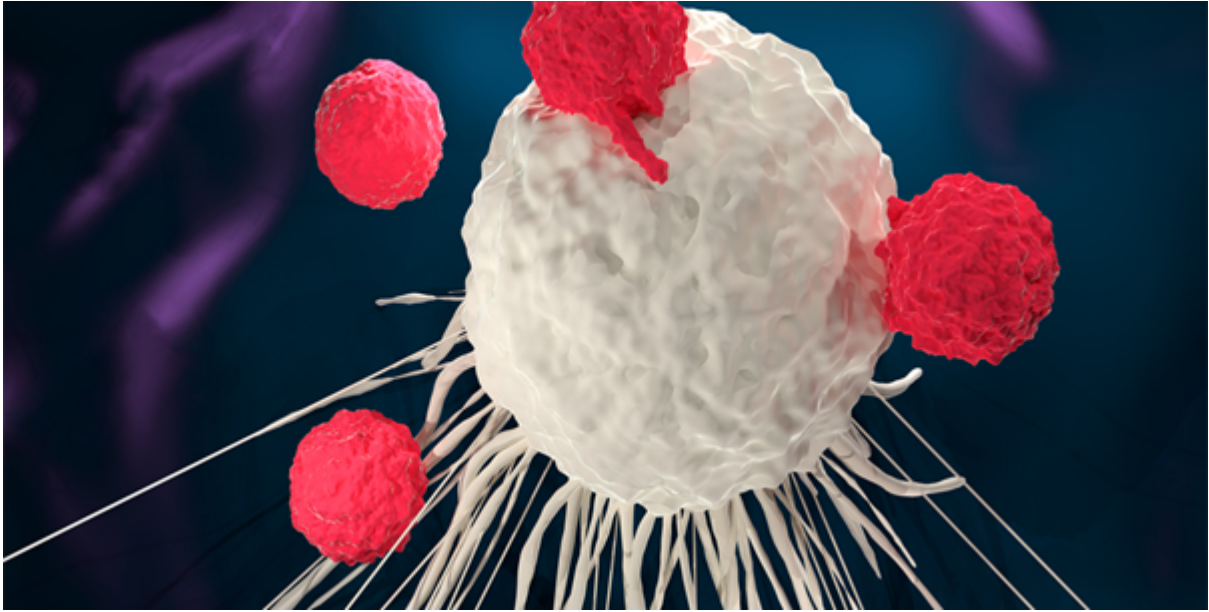
Link: <https://blogs.biomedcentral.com/on-biology/2016/09/08/future-epigenetic-drugs/>

Picture: <https://www.flickr.com/photos/121483302@N02/14200527505>

Introduction: Epigenetics present the study of modifications to DNA that change the way genes are expressed without alteration of the underlying genetic code of an individual. The first generation of FDA-approved epigenetics-based drugs has firmly established that epigenetic modulation is a viable treatment option for a growing list of diseases. Consistent with this is the fact that epigenetics therapies present the pharmaceutical companies' major investments today.

If you want to know what is the epigenetic therapy and what does the current landscape of epigenetic drugs look like, click on the link below and read all about it.

4. Meet CAR T Cell Therapy



Link: <https://www.cancer.gov/about-cancer/treatment/research/car-t-cells>

Picture: <http://eureka.criver.com/new-paradigms-for-testing-car-t-drugs/>

Introduction: One scientist once said, „CAR T cells are the equivalent of giving patients a living drug“ and not by chance. Chimeric antigen receptor (CAR)- engineered T cell therapy is a type of immunotherapy called adoptive cell transfer (ACT) which has advanced the furthest in clinical development and has a great potential to become the most promising immunotherapy treatment. So far, clinical trials have shown remarkable ability of CAR T cell therapy to eliminate various kinds of tumours, with up 95% response rates and durable complete remission.

Click on the article below and meet the first potential living drug!

5. Cancer vaccines, myth or reality?



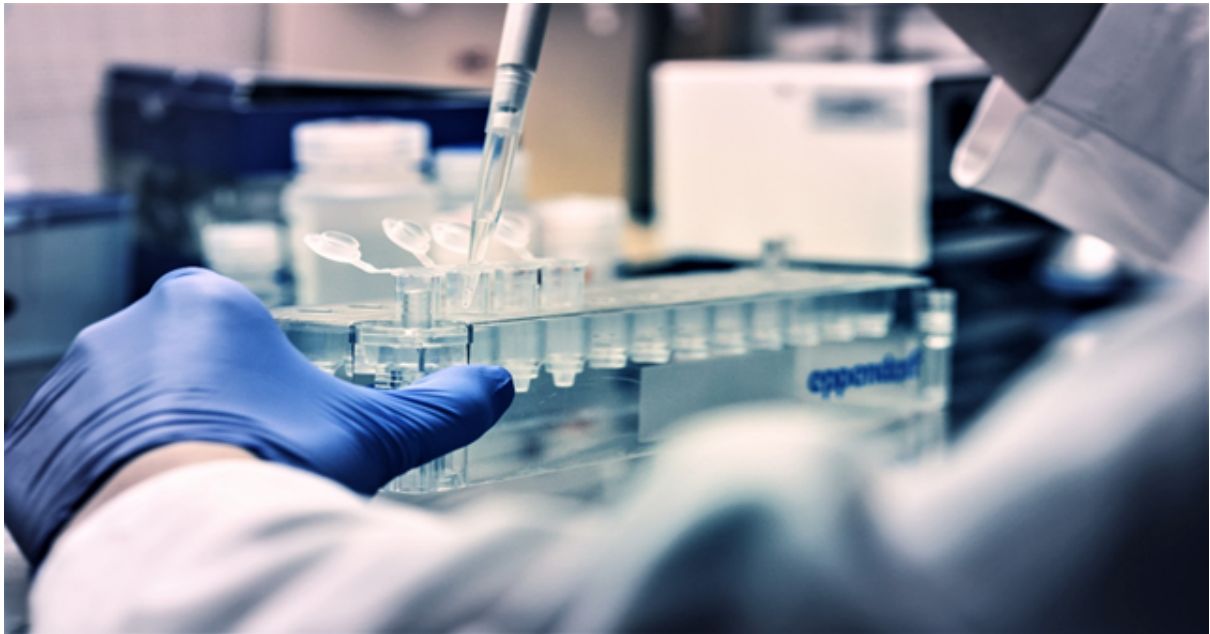
Link: <https://www.technologynetworks.com/genomics/news/cancer-vaccine-progress-potentially-rich-source-of-tumor-specific-antigens-identified-312931>

Picture: https://pixabay.com/p-789890/?no_redirect

Introduction: It is known that the vaccines present a biological preparation that provides active acquired immunity to a particular disease. So far, vaccination is considered as the most effective method of preventing infectious diseases. Having that in mind, researchers have been working on the development of cancer vaccine for 50 years, but until recently they were never able to prove exactly how much vaccine would work.

Read the article below and discover how cancer vaccines can be synthesized and what are the main mechanisms of their effect.

6. Introduction to tissue engineering



Link: <https://www.liebertpub.com/doi/full/10.1089/ten.teb.2017.0081>

Picture: https://commons.wikimedia.org/wiki/File:Behind_the_lab_work.jpg

Introduction: Tissue engineering evolved from the field of biomaterials development and refers to the practice of combining scaffolds, cells and biologically active molecules into functional tissues. The goal of tissue engineering is to assemble functional constructs that restore, maintain or improve damaged tissues or whole organs. This revolutionary technique is about to reach the maximum significance in medicine and to become an everyday treatment.

Click on the link below, and read all about tissue engineering and its future application in treatment and diagnostic procedures.