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CRISPR-Cas 9 system; the new tool to design our own bio-production system

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In 2012, Doctor Doudna and her colleagues generated a new discovery that would reduce the time and work needed to edit genomic DNA, it is Cas9 protein that can be found in Streptococcus bacteria CRISPR immune system. CRISPR-Cas 9 introduced as a tool for sequence-specific Double Strand Breakage (DSB) with low relative cost and high specificity and success rates. The capability of this system to perform targeted, highly efficient alterations of genome sequence and gene expression will undoubtedly transform biological research and spur the development of novel molecular therapeutics for human disease with significantly lower costs. The days where kilograms of animal and plant tissues or large volumes of biological fluids were needed for the purification of small amounts of a given protein are almost gone, we now have the ability to express and purify the desired recombinant protein in a large quantity with relatively low cost. In our speech, we will discuss how to design our own bio-production system by integrating all new advances in the field of genetic engineering, using E. coli bacteria as a prototype host of protein production.

Biography

Saif Aldeen Saleh Al Ryalat is a leading Researcher in several aspects of medicine, including genetic engineering and neurology. He is working on a project to design a bio-production system to design aglycosylated antibodies that can replace monoclonal glycosylated antibodies that are used in several neurological diseases (relatively high cost). He is also a peer Reviewer for several journals and a Researcher with several high impact publications. He is currently at School of Medicine at The University of Jordan where he had several honors and certificates.

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