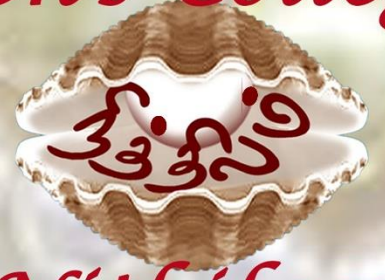


Kamaraj Women's College



Nithilam

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“பட்டங்கள் ஆள்வதும், சட்டங்கள் செய்வதும் பாரினில் பெண்கள் நடத்த வந்தோம்”



IN THIS EDITION
1. Did you know
2. Divine art of Lord Krishna
3. Crispr



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DID YOU KNOW?

- ◆ The sloth moves so slowly that algae grow on it.
- ◆ The quantity of poison needed for a coqui frog to kill a human is 0.0003 gms
- ◆ Victorians used blue morpho butterflies as broaches.
- ◆ Hibernation is a special long winter sleep of animals below a tree.
- ◆ A female deer is called "doe".
- ◆ Pygmy shrew is the smallest woodland mammal.
- ◆ The weasel is the wood mouse most deadly enemy.



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DIVINE ART OF LORD KRISHNA



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CRISPR

Genome editing (also called gene editing) is a group of technologies that give scientists the ability to change an organism's DNA. These technologies allow genetic material to be added, removed, or altered at particular locations in the genome.

Discovery of CRISPRs

Clustered regularly interspaced short palindromic repeats, otherwise known as CRISPRs, are repeating DNA sequences in the genomes of prokaryotes, such as bacteria and archaea. CRISPRs were first identified in *E. coli* in 1987 by a Japanese scientist, Yoshizumi Ishino, and his team, who accidentally cloned an unusual series of repeated sequences interspersed with spacer sequences while analyzing a gene responsible for the conversion of alkaline phosphatase. However, due to the lack of sufficient DNA sequence data, the function of these arrays remained a mystery. CRISPR-Cas9 was adapted from a naturally occurring genome editing system that bacteria use as an immune defense. When infected with viruses, bacteria capture small pieces of the viruses' DNA and insert them into their own DNA in a particular pattern to create segments known as CRISPR arrays. The CRISPR arrays allow the bacteria to "remember" the viruses (or closely related ones). If the viruses attack again, the bacteria produce RNA segments from the CRISPR arrays that recognize and attach to specific regions of the viruses' DNA. The bacteria then use Cas9 or a similar enzyme to cut the DNA apart, which disables the virus.

ADVANTAGES OF CRISPRs

- Reliable DNA sequencing services. CRISPR-Cas9 technology & advanced DNA design and synthesis.
- DNA technologies for antibody services. Comprehensive recombinant protein expression and purification services. Reliable DNA sequencing services.
- CRISPR-Cas9 technology advanced DNA design and synthesis.
- DNA technologies for antibody services.
- Comprehensive recombinant protein expression and purification services. It can edit virtually any segment of DNA within the 3 billion letters of the human genome, and it's more precise than other DNA-editing tools. And gene editing with CRISPR is a lot faster.
- With older methods, "it usually took a year or two to generate a genetically engineered mouse model.

ECONOMIC VALUE

The global market for CRISPR technology was estimated at \$3.4 billion in 2022 and is expected to increase rapidly by 22.3% to reach \$9.2 billion in 2027. The costs of CRISPR-based therapies remain exorbitant at the moment, with price tags exceeding \$1 million per treatment. America's first CRISPR trial is still nearly 100% effective 3 years on. The new data reports- nearly 100% success in 75 patients treated with efficacy persisting up to three years beyond the initial treatment.



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