CRISPR: Tools and application in plant protection

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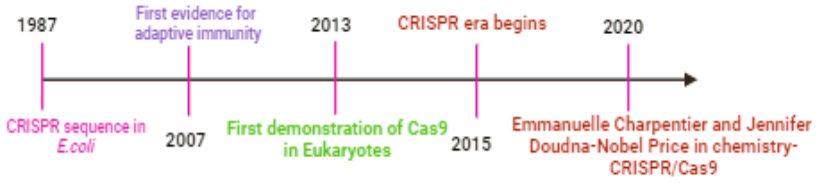
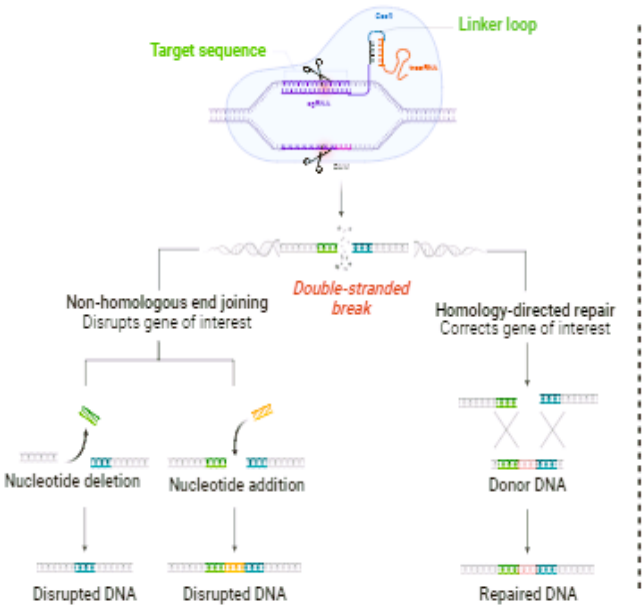
- Clustered Regularly Interspaced Short Palindromic Repeat
- Short, partially palindromic repeated DNA sequences - genomes of bacteria
- Bacterial adaptive immune system (***Streptococcus pyogenes***)

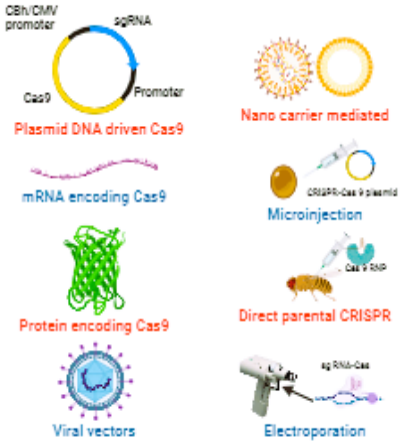
History



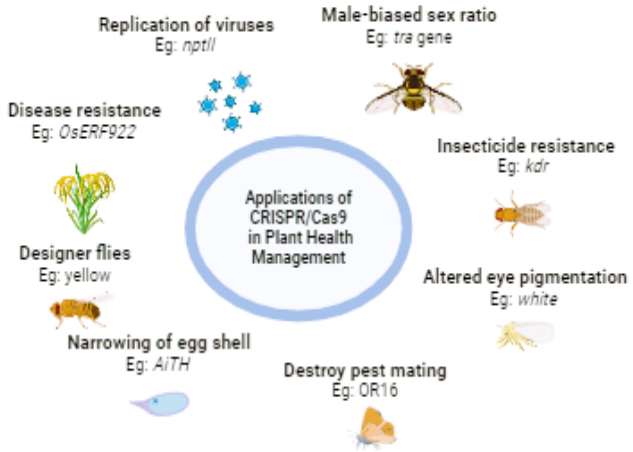
Components and gene editing process



Delivery methods



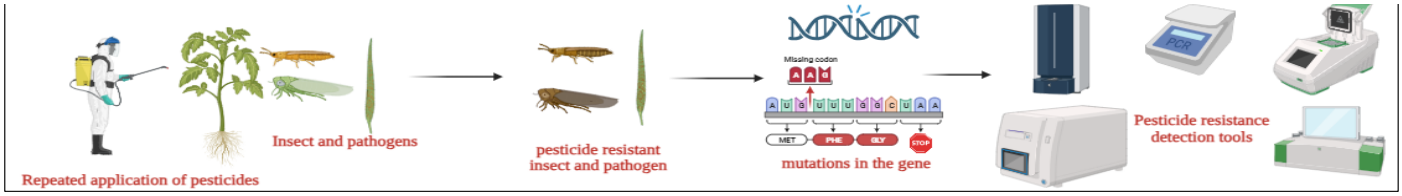
Applications

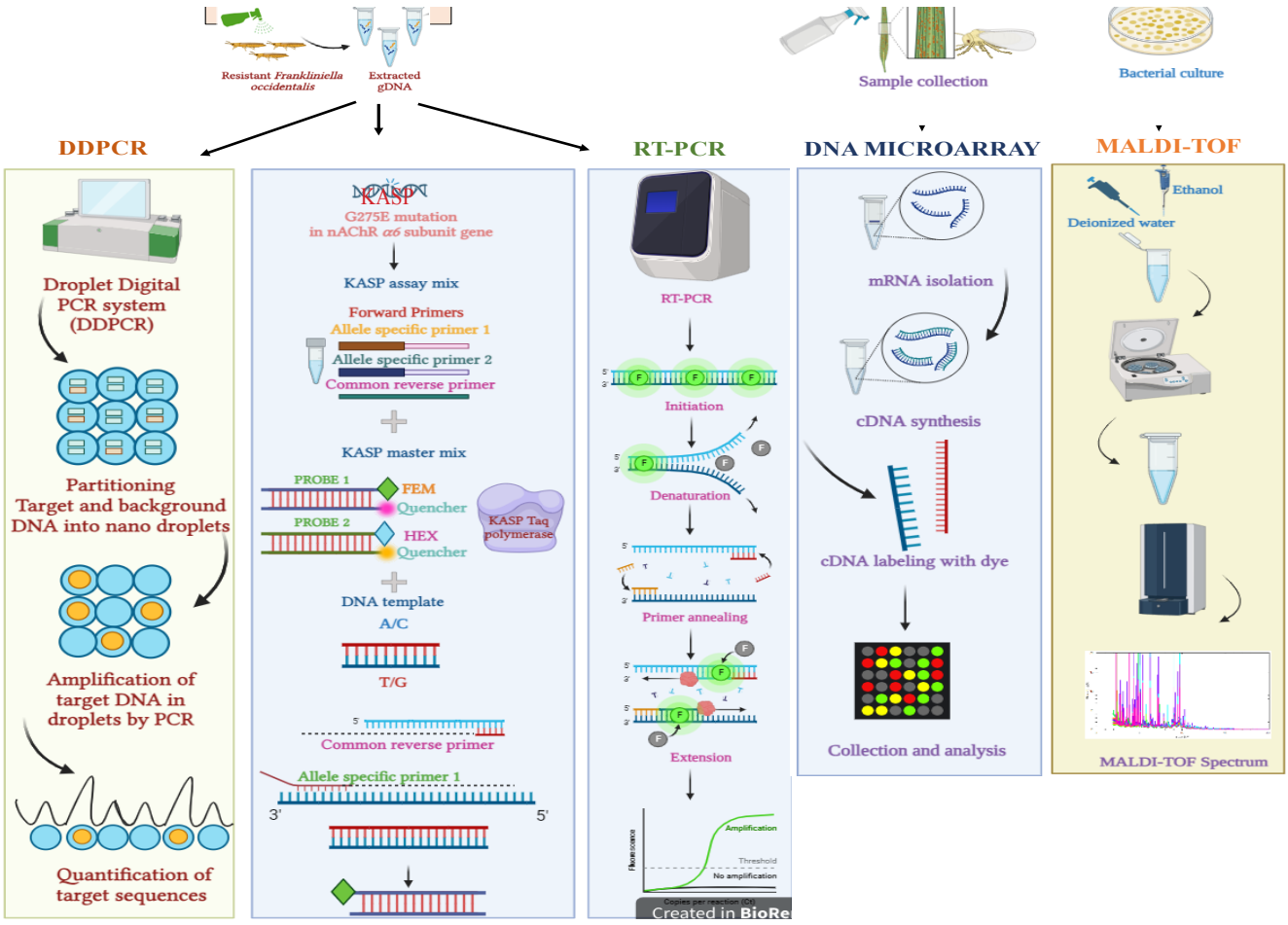


Further Readings:

- Nisa, R. T., Jan, S. K., Bhat, F. A., Rather, T. R., Nabi, A., Wani, A. A. & Shabir, Z. (2022). Review on "Crispr-Cas9-A Genome Editing Tool for Plant Disease Management". *Plant Cell Biotechnology and Molecular Biology*, 1-14.
- Jiang, F., & Doudna, J. A. (2017). CRISPR–Cas9 structures and mechanisms. *Annual review of biophysics*, 46, 505-529.

Molecular tools for detection of pesticide resistance





Further Readings

•Anjum MF, Zankari E, Hasman H. Molecular Methods for Detection of **Antimicrobial Resistance. Microbiol Spectr. 2017 Dec;5(**6).

•Trends and Challenges in Pesticide Resistance Detection. Trends Plant Sci. 2016 Oct;21(10):834-853.

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