




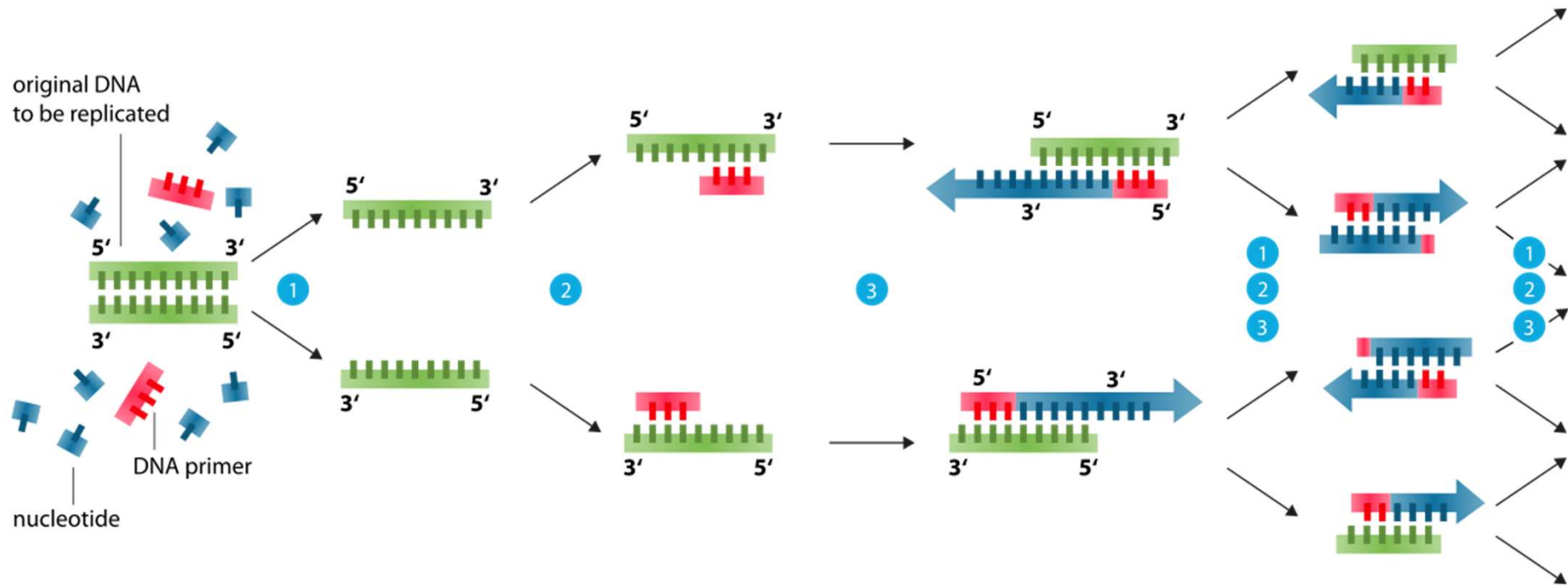
PCR (Polymerase chain reaction)

Ryuki Maekawa
Nguyen Quoc Viet

1. What is PCR ?

- PCR stands for Polymerase Chain Reaction
 - A method to replicate many copies of a specific DNA segment in a short amount of time
 - Invented by Kary Mullis in the 1980s
 - Entirely performed in a test tube (*in vitro*) unlike traditional approach of using vectors
 - Sensitive, fast, easy to use technique
- 

2. How does PCR work ?



- 1 **Denaturation** at 94-96°C
- 2 **Annealing** at ~68°C
- 3 **Elongation**

3. Where is PCR used ?

- Diagnosis of infectious diseases by microorganisms
- Testing food products for potentially harmful microbes
- Forensic medicine to obtain DNA fingerprint



<https://www.ibaraki-kensa.or.jp/food/bunseki.html> 2019/5/29



<https://docplayer.es/58845293-Inteligencia-militar-yolicial-dr-luis-castellanos.html> 2019/5/29

Thank you for listening!



<https://empiricalbioscience.com/press-release-empirical-bioscience-unveils-new-eb-pure-pcr-purification-kit/> 2019/5/29

4. References

- Biochemistry by Donald Voet / Judith G. Voet (4th edition)
- Essential cell biology by B.Alberts, K.Hopkin, A.Johnson, et al (5th edition)
- <https://laboratoryinfo.com/polymerase-chain-reaction-pcr/>