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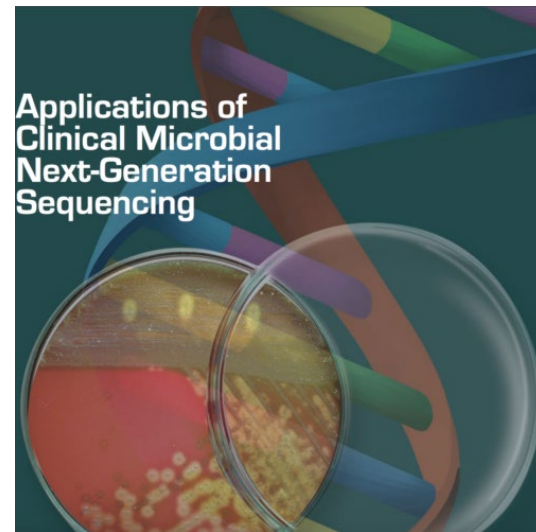
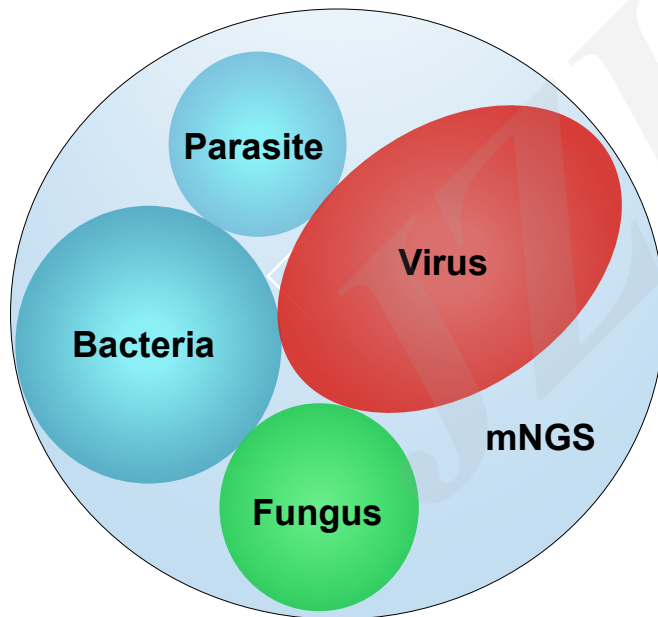
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Clinical applications of metagenomics next-generation sequencing in infectious diseases

Key words: Metagenomics next-generation sequencing (mNGS), Infectious disease, Cerebrospinal fluid (CSF), Oxford Nanopore Technologies (ONT), Microbiome

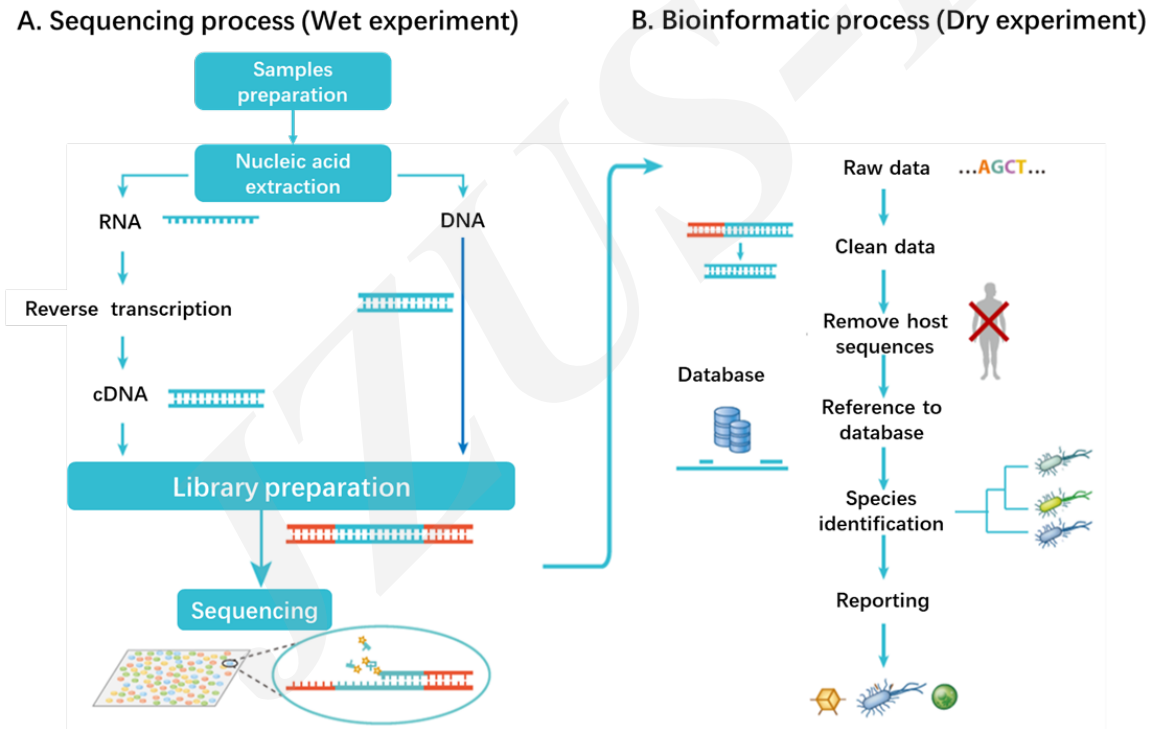
Research Summary

This review introduces the history of next-generation sequencing, mainstream sequencing platforms, and mNGS workflow, and discusses the clinical applications of mNGS to infectious diseases and its advantages and disadvantages.



Innovation points

- Introduction of the three representative sequencing platforms and the routine of mNGS.



Innovation points

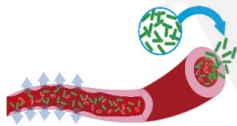
- **Summary** of the applications of mNGS in infectious diseases.



- Nervous system infections



- Respiratory system infection



- Bloodstream infections



- Ocular infections

Innovation points

- **Discussion** of advantages and limitations of mNGS in clinical applications, as well as its future directions .
- **A series of comprehensive tables were generated to summarize the knowledge of mNGS.**
 - **Table 1 | Advantages and Disadvantages of Different Assays**
 - **Table 2 | Pro and Cons of Targeted and Shotgun Sequencing**
 - **Table 3 | Illumina Sequencing Platforms**
 - **Table 4 | Nanopore Technology Platforms**
 - **Table 5 | Key Results of ABRF Next-Generation Sequencing Study**
 - **Table 6 | Advantages and Disadvantages of mNGS**