

Metagenomics Sequencing

Product Introduction

GMKGENE has cooperated with more than 700 scientific research institutions around the world, we have successfully co -mpleted over 10,000+ metagenomic samples, including soil, water, air, sludge, feces, intestinal contents, industrial fermen -tation liquid, biofilm, swab, mouth, skin, insects, endophytic bacteria and other environmental samples. According to inco mplete statistics, more than 150 articles have been published.





Service-Workflow



Bioinformation,List

- Metagenome assembly;
- Function annotation: Nr, GO, KEGG,
 eggNOG, Pfam, SwissProt, CAZy, CARD,
 VFDB, PHI-base, CYPED, QS, BacMet;
- Diversity analysis -function level and

species level:

- 1. Components and abundance of functional genes;
- 2. Intergroup differential analysis of functional genes;
- Correlation and association analysis of functional genes;

Service Advantages •••••

- b High-quality assembly-Enhancing accuracy of species identification and functional gene prediction;
- More powerful and reliable application in diverse areas, e.g. detection of pathogenic microorganisms or antibiotic resistance-related genes;
- Dual platform to meet the needs of scientific research: Illumina NovaSeq6000; Nanopore PromethION P48.
- Closed bacterial genome isolation. Comparative metagenome analysis.
- BMKCloud facilitated data interpretation containing 40 personalized analyzing tools.

Service Specifications ••••

Platform	Sequencing	Recommended data	Turnaround Time
Illumina	PE150	6 G/10 G/20 G	25
Nanopore	ONT	6 G/10 G	25



Platform	Qubit Conc. (ng/µL)	Amount (µg)	Volume (µL)	OD260/280
Illumina	1	0.03	20	1.6-2.5
PacBio Revio	40	2	20	1.7-2.2

Demo Results

1.Heatmap: Species abundance clustering



2. Functional genes annotated to GO database



3.Circos of CARD antibiotic resistance genes



Featured Publications

Year	Journal	Paper	Article	DOI
2023	Nature Microbiology	A high-quality genome compendium of the human gut microbiome of Inner Mongolians	Human gut microbiota	101038/s41564-022-01270-1
2023	Journal of Cleaner Production	Low-level cadmium alleviates the disturbance of doxycycline on nitrogen removal and N2O emissions in ditch wetlands by altering microbial community and enzymatic activity	Environmental pollution control	10.1016/j.jclepro.2022.135807
2023	Science of the Total Environment	Dysregulation of the microbiota-brain axis during long-term exposure to polystyrene nanoplastics in rats and the protective role of dihydrocaffeic acid	Medical research	10.1016/j.scitotenv.2023.162101

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