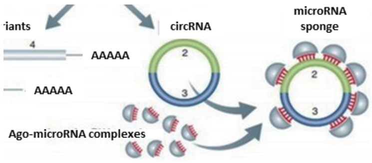
BMKGENE

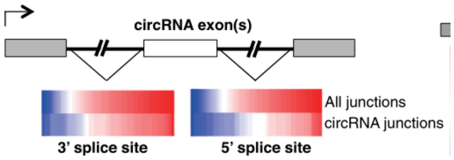
CircRNA Sequencing

CircRNA (Circular RNA) is one class of non-coding RNA molecules that is short of 5' end cap and 3' end poly (A) tail. CircRNA performs circularstructure by the covalent bond which is status against RNA exonuclease digestion. To explore the pivotal role of circRNA in organismal growth, development, and environmental resilience, with BMKGENE's cutting-edge technology, delve into the intricate world of circRNA and unlock new insights into the regulatory mechanisms shaping life's complexities.

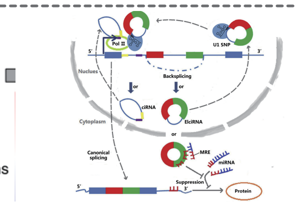
Application



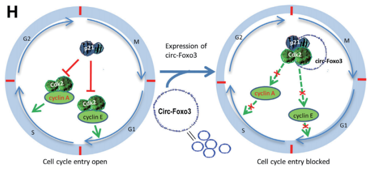
Mechanism of miRNA sponge



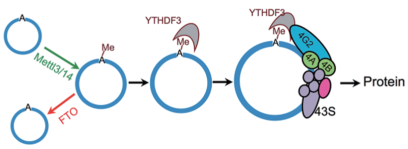
Regulating alternative splicing



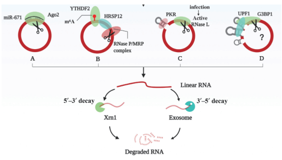
Regulating gene expression



Binding functional protein

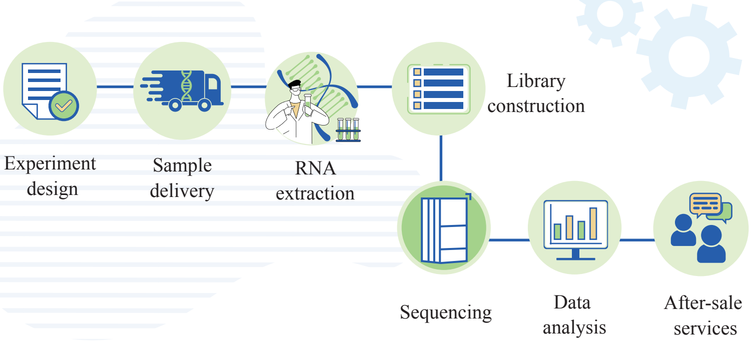


Translation



Mediating RNA degradation

Service Workflow



Experiment design

Sample delivery

RNA extraction

Library construction

Sequencing

Data analysis

After-sale services

Bioinformatics

- Identification and annotation of known circRNA;
- Novel circRNA prediction;
- CircRNA hosts;
- CircRNA expression and distribution;
- Prediction on circRNA targeted miRNAs;
- CircRNA differential expression analysis;
- DE-circRNA host gene classification, enrichment and annotation.

Service Advantages

1. Identification and statistics on known circRNA and novel circRNA prediction.
2. Exploring the correlation between circRNA and mRNA expression regulation, study the regulatory system of circRNA-miRNA-mRNA.
3. Unveil the intricacies of circRNA's function and regulatory mechanisms, and explore its interactions with mRNA, lncRNA, and miRNA.
4. Unlock the dynamic expression patterns of circRNA across various tissues, cell types, and developmental stages, comprehensive detection and profiling of circRNA.
5. After-sale services: After-sale services are valid for 3 months upon project completion, including project follow-up, trouble-shooting, results Q&A, etc.

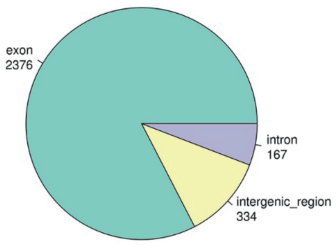
Service Specifications

Library	Platform	Recommended Data	Data Quality
rRNA depletion	Illumina NovaSeq	16 Gb	Q30 ≥ 85%

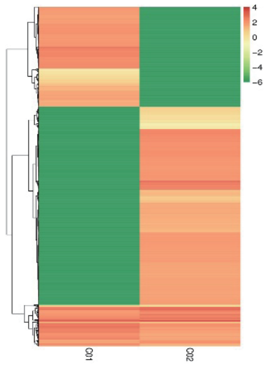
Sample Requirements

Amount	Purity	Integrity
Conc. ≥ 100 ng/μL; Volume ≥ 10 μL; Total ≥ 0.5 μg	OD260/280=1.7-2.5 OD260/230=0.5-2.5 Limited or no protein or DNA contamination shown on gel.	For plants: RIN ≥ 6.5; For animals: RIN ≥ 7.0; 5.0 ≥ 28S/18S ≥ 1.0; limited or no baseline elevation

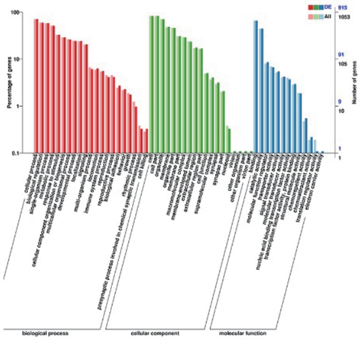
Demo Results



1. Distribution of circRNA host



2. Hierarchical clustering of differentially expressed circRNAs



3. GO classification of DE-circRNA host genes

Featured Publications

Year	Journal	Article	Applications	DOI
2023	International Immunopharmacology	Comprehensive evaluation of circRNAs in cirrhotic cardiomyopathy before and after liver transplantation	Disease treatment	10.1016/j.intimp.2022.109495
2023	Research Square	CPSF3 modulates the balance of circular and linear transcripts in hepatocellular carcinoma	Disease treatment	10.21203/rs.3.rs-2418311/v1
2023	Phytopathology Research	Xoo-responsive transcriptome reveals the role of the circular RNA133 in disease resistance by regulating expression of OsARAB in rice	Disease resistance	10.1186/s42483-023-00188-8

BMKGENE

Biomarker Technologies (BMK) GmbH

BioZ, Johann-Krane Weg
42, 48149 Münster, Germany

tech@bmkcloud.com
www.bmkgene.com