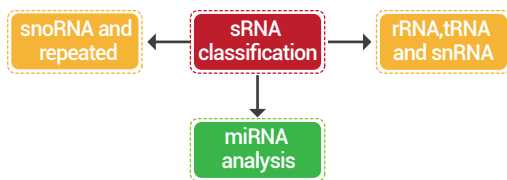


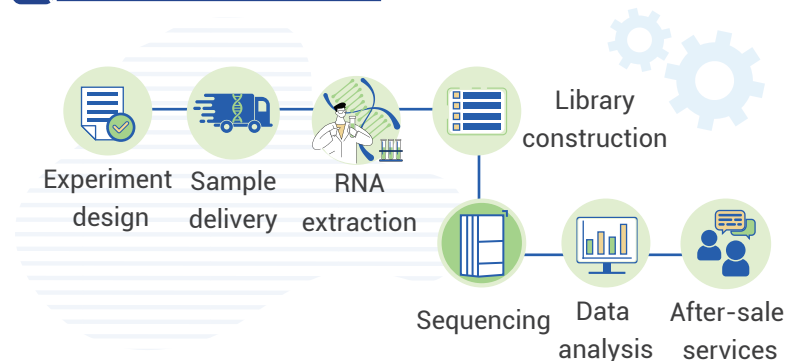
# Small RNA Sequencing

Small RNA, including microRNA (miRNA), small interference RNA (siRNA), and piwi-interacting RNA (piRNA), holds immense potential for cellular regulation. Among them, miRNA is endogenous small RNA with lengths of 20-24 nt that plays a crucial role in various biological processes, including cell cycle regulation, development, cell differentiation, and immune response. Additionally, miRNA is closely associated with the occurrence and progression of various diseases. With BMKGENE, unveil tissue-specific and stage-specific expression patterns and their conservation of miRNA in different species.

## Technical Features



## Service Workflow



## Bioinformatics

- ▶ Small RNA identification, classification, and annotation (miRBASE, RepBASE, Rfam, SILVA, GtRN-Adb, etc.);
- ▶ miRNA base preference and base editing;
- ▶ miRNA quantification and differential expression analysis;
- ▶ miRNA targeted genes prediction;
- ▶ Functional annotation and enrichment on DE -miRNA targeted genes.

## Service Advantages

- Extensive experience in sRNA sequencing with hundreds of closed projects covering 300+ species.
- Strict quality control system monitoring the entire project process.
- Comprehensive bioinformatics analysis on small RNA expression as well as targeted molecule prediction.
- Joint analysis available for miRNA+mRNA; miRNA+lncRNA; miRNA+circRNA+lncRNA, etc.
- **After-sale services:** After-sale services are valid for 3 months upon project completion, including project follow-up, trouble-shooting, results Q&A, etc.

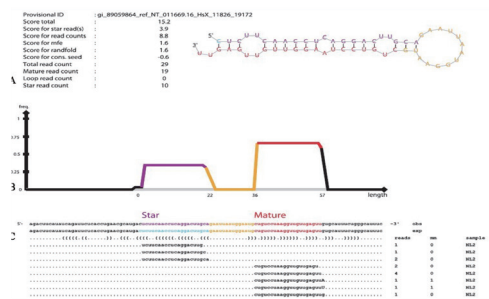
# Service Specifications

Library	Read Length	Recommended Data	Data Quality
sRNA	SE50	10 M/20 M reads	Q30 ≥ 85%

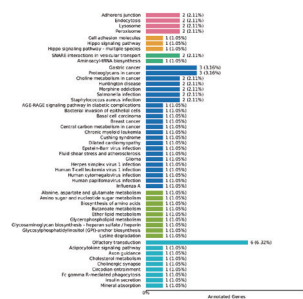
# Sample Requirements

Amount	Purity	Integrity
Conc. ≥ 80 ng/μL; Total ≥ 0.8 μg	OD260/280=1.7-2.5 OD260/230=0.5-2.5 Limited or no protein or DNA contamination shown on gel.	RIN ≥ 6.0; 5.0 ≥ 28S/18S ≥ 1.0; limited or no baseline elevation

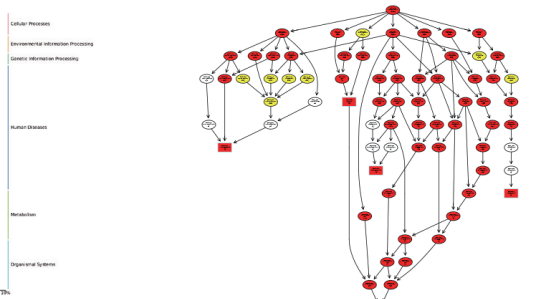
# Demo Results



1. Candidate precursor of novel miRNAs predicted by miRDeep2



2. KEGG enrichment on DE-miRNA targeted genes



3. GO enrichment on DE-miRNA targeted genes

# Featured Publications

Year	Journal	Article	Applications	DOI
2024	Nature Communications	SARS-CoV-2 N protein-induced Dicer, XPO5, SRSF3, and hnRNP3 downregulation causes pneumonia	Transcriptional regulation	10.1038/s41467-024-51192-1
2024	Theranostics	Klotho-derived peptide 1 inhibits cellular senescence in the fibrotic kidney by restoring Klotho expression via posttranscriptional regulation	Disease treatment	10.7150/thno.89105
2024	Journal of Nanobiotechnology	ZnO NPs induce miR-342-5p mediated ferroptosis of spermatocytes through the NF-κB pathway in mice	Material toxicity	10.1186/s12951-024-02672-5



## Biomarker Technologies (BMKGENE)

✉ info@bmkgene.com    🌐 www.bmkgene.com

• Global Locations •

Germany    United Kingdom    United States    China