48810 Kato Road, Suite 100E & 200E
Fremont, CA 94538, USA
Tel: +1 (800) 421-4149

Hsa-miR-LET-7g Probe

Catalog No. FM007g-25
Description: one vial of 0.3 mL of probe in hybridization buffer

Intended Use:
This probe is intended for research use only.

Principle:
MicroRNAs (miRNAs) are endogenous, non-coding small RNA molecules that play important role in controlling gene expression. They are involved in multiple biological functions and disease progression including cancer. miRNAs either act as tumor suppressors or oncogenes depending on function of their target gene. Aberrant expression of miRNA has been reported in different cancer types; hence, *in situ* detection of miRNA provides important insight for diagnosis, prognosis, and disease management. Let-7 family gene was first discovered in the nematode as a key developmental regulator. Let-7 was found in fruit fly and identified as the first known human miRNA by a BLAST search. The mature form of let-7 family members is highly conserved across species. Although the levels of mature let-7 members are undetectable in undifferentiated cells, the primary transcripts and the hairpin precursors of let-7 are present in these cells. It indicates that the mature let-7 miRNAs may be regulated in a post-transcriptional manner. Let-7 expression is lower in lung tumors than in normal lung tissue, while RAS protein is significantly higher in lung tumors, providing a possible mechanism for let-7 in cancer.

Please visit the following link for more information about Hsa-miR-LET-7g. https://www.ncbi.nlm.nih.gov/gene/406890

Summary and Explanation
miRNAs play an important role in many biological processes, including differentiation and development, cell signaling, and response to infection. Recent research have shown that human miRNA genes are frequently located in cancer-associated genomic regions, while perturbed miRNA expression patterns have been observed in many human cancers. A number of oncogenes and tumor suppressor genes were found to be the targets of miRNAs and global miRNA expression signatures were able to distinguish cancerous and non-cancerous tissues. Therefore, miRNA profiles can serve as highly specific markers for diagnosis, prognosis, disease monitoring, as well as prediction of therapeutic response. miRNAs are remarkably stable molecules and are well preserved in formalin-fixed, paraffin-embedded (FFPE) as well as frozen specimens. Early diagnosis, detection, and assessment of the disease progression are essential for disease management, especially in tumor patients, where timely therapeutic interventions are extremely critical.

Quality Control
This product is quality control tested at BioGenex according to the suggested procedure. The recommended positive control tissue(s) for this miRNA probe is intestine (FB-HM007G).

Recommended protocol and parameters for Hsa-miR-LET-7g probe
Automated Protocol:
https://omicsveu.com/wp-content/uploads/Brochures/914-0071.0.pdf
Manual Protocol:
https://omicsveu.com/wp-content/uploads/Brochures/914-0072.0.pdf
For more information:
https://omicsveu.com/wp-content/uploads/Brochures/914-0073.0.pdf

Bibliography

1. https://doi.org/10.1002/emmm.201100209
2. https://doi.org/10.1186/1423-0127-19-90
3. https://doi.org/10.1016/j.ymeth.2007.10.008
4. 10.1007/978-1-60761-657-3_18
5. 10.1007/s13238-013-3001-5
6. 10.1261/rna.2006511
7. https://doi.org/10.1007/s11515-011-0990-4
8. 10.1038/35002607
9. 10.1038/35040556
10. 10.1101/gad.1444406

8°C 2°C	Temperature Limitation	RUO	For Research Use Only
	Use By Date	LOT	Batch Code
NON STERILE	Non-Sterile		Consult Instructions for Use
REF	Catalogue Number		BioGenex

Distributed by: omicsveu
Omicsveu is a distributor company offering the true spatial multi-omics platform & reagents.
Address: 48810 Kato Road, Suite 100E & 200E
Fremont, CA 94538, USA
Tel: +1 (800) 421-4149
Contact: customerservice@omicsveu.com

Doc. No. 932-FM007g-25 Rev. B
Release Date: 04-Jul-2023