

Hsa-miR-642 Probe

Catalog No. FM642-25

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. miR-642-5p regulate deoxyhypusine hydroxylase (DOHH) expression in prostate. DOHH catalyzes the activation of eukaryotic translation initiation factor (eIF5A), a protein essential for cell growth. Within the DOHH 3'-UTR is a 182-nt element that contains six putative miR-642-5p binding sites. There is an inverse association between DOHH mRNA expression and the levels of miR-642-5p in prostate ca. cell lines and a normal prostate epithelial cell line. miR-642-5p acts as a prostate tumor suppressor to regulate proliferation not only via decreased ERBB-2/Akt signaling and E2F1 expression, but also through the control of DOHH expression, which in turn alters the hypusination and activation of eIF5A. miR-642-5p may have therapeutic potential in the treatment of prostate ca. Furthermore, the synergistic action of miR-642-5p with the DOHH inhibitor mimosine suggests that therapeutic up-regulation of these miRNAs could augment the efficacy of DOHH/eIF5A inhibitors in the treatment of prostate ca.

Please visit the following link for more information about Hsa-miR-642. <https://www.ncbi.nlm.nih.gov/gene/693227>

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 are human normal prostate and breast (FB-HM642).

Recommended protocol and parameters for Hsa-miR-642 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](https://doi.org/10.1007/978-1-60761-657-3_18)
5. [10.1007/s13238-013-3001-5](https://doi.org/10.1007/s13238-013-3001-5)
6. [10.1261/rna.2006511](https://doi.org/10.1261/rna.2006511)
7. <https://doi.org/10.1007/s11515-011-0990-4>
8. [10.1074/jbc.M112.374686](https://doi.org/10.1074/jbc.M112.374686)

	Temperature Limitation	RUO	For Research Use Only
	Use By Date	LOT	Batch Code
	Non-Sterile		Consult Instructions for Use
REF	Catalogue Number		BioGenex

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