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

Hsa-miR-130b Probe

Catalog No. FM130b-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-130b, located at the 22q11 locus, plays an oncogenic role in gastric, liver, and endometrial cancers and acts as a tumor suppressor in ovarian cancer and thyroid papillary carcinoma. A recent study revealed a correlation between miR-130b and prognoses of postoperative esophageal cancer patients. This suggests that upregulation of miR-130b might be an unfavorable factor for ESCC patients. PTEN is a target of miR-130b, which regulates expression at the translational level. Suppression of PTEN results in increased p-Akt, promoting the proliferation, migration, and invasion of ESCC cells *in vitro*. These findings suggest that miR-130b may be a new target for ESCC diagnosis and therapy. Wang et al., demonstrated that miR-130b was significantly upregulated in HCC and correlated with poor patient prognosis and it might be useful as a prognostic biomarker for HCC. Functional studies demonstrate that downregulation of miR-130b inhibits HCC cell migration and invasion. An inverse correlation between miR-130b and PPAR-γ expression is observed in HCC tissues, suggesting that miR-130b functions as a pro-metastatic factor by downregulating PPAR-γ. This reveals that miR-130b may play a critical role in the invasion and metastasis of HCC.

Please visit the following link for more information about Hsa-miR-130b. https://www.ncbi.nlm.nih.gov/gene/406920

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 ca.esophagus (FB-HM130B).

Recommended protocol and parameters for Hsa-miR-130b 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. 10.1016/j.ejca.2010.01.036
9. 10.1007/s12032-013-0484-0
10. 10.1016/j.ygyno.2011.10.013

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-FM130b-25 Rev. B
Release Date: 31-May-2023