

One Minute Pitch

Breast cancer is a complex disease with great clinical and molecular heterogeneity that requires accurate assessment of known breast cancer biomarkers, such as HER2, estrogen receptor (ER), and progesterone receptor (PgR), as well as the discovery of emerging potential targets, for the precise treatment of breast tumors. The RNAscope® in situ hybridization assay offers a very reliable and robust method for the detection and validation of breast cancer-related markers within the tissue environment and can be performed on routinely available FFPE samples..

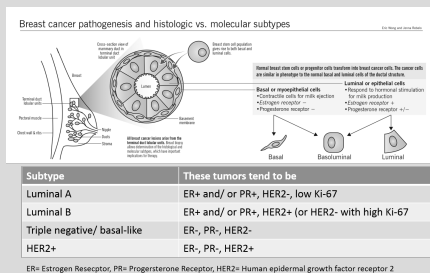
Applications

- Resolution of equivocal and heterogeneous cases of HER2 expression
- Validation of transcriptome data
- Sub-cellular localization of RNA in breast cancer
- Detection of lncRNAs in breast cancer
- Preclinical drug efficacy for breast cancer treatment
- Assessment of potential prognostic markers for breast cancer

Known Breast Cancer Biomarkers

- HER2 (ERBB2)
- Estrogen receptor (ESR1)
- Progesterone receptor (PGR)
- Triple negative breast cancer (TNBC): Negative for HER2, ER, and PR

Breast Cancer Subtypes



Marketing Materials

Breast Cancer related publications: <http://bit.ly/2q3dcKc>

Examples of RNAscope in Breast Cancer Research

Resolution of equivocal and heterogeneous cases of HER2

expression: Standard HER2 testing methods are often hampered by equivocal testing and intratumoral heterogeneity. Wang et al. developed a fully automated, quantitative ISH assay using the RNAscope® technology to quantify single-cell HER2 mRNA levels. <http://bit.ly/2qGSIWG>

Patient-stratification for treatment regimens: Vassilakopoulou et al. used the RNAscope® assay to assess HER2 mRNA as a predictor of benefit from trastuzumab-based chemotherapy and to correlate it to HER2 protein and gene levels. <http://bit.ly/2rtsyHZ>

Validation of transcriptome data and sub-cellular localization of

lncRNA in breast cancer: In their study Lin et al. selected lncRNA LINK-A as it shows frequently elevated expression in TNBC patients. RNAscope® ISH confirmed the array results, showing that expression of LINK-A was significantly increased in TNBC tissues. <http://bit.ly/2qMojGT>

Preclinical drug efficacy for breast cancer treatment: FGFR2 gene amplification is found in 4% of triple-negative breast cancers (TNBC). In their study, Sommer et al. demonstrate the preclinical efficacy of BAY1187982, a novel FGFR2-antibody drug conjugate (ADC). <http://bit.ly/2rtIStB>

Assessment of HOTAIR as a prognostic breast cancer biomarker for

breast cancer: High expression of the large intergenic non-coding RNA (lincRNA) HOTAIR has been shown to be a significant predictor of poor prognosis and metastasis in breast carcinomas. Gökmen-Polar et al. showed that the prognostic role of HOTAIR is restricted to ER-/lymph node+ tumors, where its expression could be used as a potential prognostic marker. <http://bit.ly/2rKKhxs>

Related Breast Cancer Probes

ABCB1 ABCG2 ADAM23 AKT1 APC AR ATM BAD BCL2 BIRC5 BRCA1
 BRCA2 CCNA1 CCND1 CCND2 CCNE1 CDH1 CDH13 CDK2 CDKN1A
 CDKN1C CDKN2A CSF1 CST6 CTNNB1 CTSD EGF EGFR ERBB2
 ESR1 ESR2 FOXA1 GATA3 GLI1 GRB7 GSTP1 HIC1 ID1 IGF1 IGF1R
 IGFBP3 IL6 JUN KRT18 KRT19 KRT5 KRT8 MAPK1 MAPK3 MAPK8
 MGMT MKI67 MLH1 MMP2 MMP9 MUC1 MYC NME1 NOTCH1 NR3C1
 PGR PLAU PRDM2 PTEN PTGS2 PYCARD RARB RASSF1 RB1
 SERPINE1 SFN SFRP1 SLC39A6 SLIT2 SNAI2 SRC TFF3 TGFB1
 THBS1 TP53 TP73 TWIST1 VEGFA XBP1



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