Acelarin: Validating the RNAsecope for molecular profiling of key biomarkers associated with gemcitabine resistance

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BACKGROUND

GEMцитabин & Biomarkers
- Increased sensitivity to gemcitabine treatment in pancreatic cancer
- RNAsecope technique for broad RNA profiling
- Biomarkers assessed in combination with gemcitabine resistance
- Poor survival across all biomarkers

Modality of Action
- Acelarin designed to overcome the key cancer resistance mechanisms (Figure 2)
- Efficient quench of NTRK-independent cellular quench
- Power of 4:4:24 independent amplification
- Greater sensitivity: RNA degradation mechanism

RESULTS
- RNAsecope specifically reveals biomarkers signals in morphological context
- Specific NTRK, 4CK, and COX2 are co-localized (Figure 3)
- Strong and clear signal for background

CONCLUSIONS
- RNAsecope is a promising assay for targeted detection of key RNA biomarkers
- Acelarin is a reliable technology for biomarker quantification
- Specific RNAsecope probes for NTRK, 4CK, and COX2 biomarkers have been validated
- Expression levels for NTRK, 4CK, and COX2 by Acelarin have been measured in multiple cancer cell lines
- Predictive clinical thresholds are currently being evaluated for each biomarker

NTRK, 4CK, and COX2 were co-localized (Figures 3 and 4)
- COX2 rapidly and reproducibly measures biomarker expression
- 4CK and NTRK1 were expressed at medium to high levels. 4CK visualized across all cell lines
- COX2 was expressed at low levels. 45 spots/cell across cell lines

NTRK expression by RNAsecope and COX2 by Acelarin (Figures 5 and 6)
- COX2 expression in patient samples
- COX2 and NTRK1 expression in cell lines
- A positive correlation was observed between the two data sets for 4CK (Figure 7)

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