Quantification of ALK from Non-Small Cell Lung Cancer (NSCLC) FFPE Tissue by Targeted Mass Spectrometry

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Overview

- ALK break-apart FISH is the FDA approved diagnostic test to detect ALK translocations, but, is laborious, expensive, and often challenging to interpret.
- ALK IHC is faster and more cost-efficient method to detect ALK protein expression; many reports have demonstrated excellent correlation between ALK IHC and ALK FISH results.
- Mass Spectrometry-based SRM assay simultaneously quantifies multiple biomarker proteins in FFPE tissues and avoids the triage of the specimens for FISH or IHC test to ensure all patients who may benefit from targeted therapy receive optimal treatment as early as possible.

Methods

Eighteen proteins were quantified in 18 FFPE NSCLC tissues

Currently Available Assays from OncoPlex Diagnostics

Conclusions

- The OncoPlex Diagnostics SRM assay identifies ALK positive patients who responded to crizotinib treatment; SRM positive cases would be reflexed to FISH for confirmation.
- Multiplex SRM assay identifies other proteins (e.g. ROS1 and MET) that are known targets to crizotinib therapy and may be responsible for patient’s response.
- Multiplex screening of patient tissue at the time of initial biopsy maximizes information in limited tissue and provides the clinician with valuable, actionable diagnostic information.