Immunohistochemistry effectively detects ALK rearrangement

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ALK rearrangement has been demonstrated to be a potent oncogenic driver and a promising therapeutic target in non-small cell lung cancer (NSCLC). It defines a distinct molecular subset of NSCLC, in particular adenocarcinoma that can benefit by the treatment of ALK-inhibitors. Development of robust and reliable laboratory tests for predictive biomarkers is essential to select appropriate patients for targeted therapy.

Researchers from the Chinese University of Hong King evaluated the practical usefulness of immunohistochemistry to detect ALK expression as a reliable detection method of ALK rearrangement in lung adenocarcinoma.

A study published in the July issue of the *Journal of Thoracic Oncology* (*JTO*), concludes that immunohistochemistry can effectively detect ALK rearrangement in lung cancer. In fact, it might provide a reliable and cost-effective diagnostic approach in routine pathologic laboratories for the identification of suitable candidates for ALK-targeted therapy. Researchers tested 373 lung adenocarcinomas for ALK rearrangement by immunohistochemistry (IHC) and fluorescent in situ hybridization, known as FISH.

They conclude that, "IHC would be served as an effective and rapid detection method in routine pathologic laboratories for the identification of suitable candidates for ALK-targeted therapy." IHC is a less complex and less costly technology than FISH.

In addition, their research demonstrated that some ALK IHC positive but FISH-negative lung cancers did harbor the translocation events as confirmed by RT-PCR. Thus, this subgroup of patients should also benefit from ALK inhibitory therapy. Further clinical trials are required to address the predictive value of ALK IHC in these patients.

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