Unipath
SPECIALTY LABORATORY Ltd.

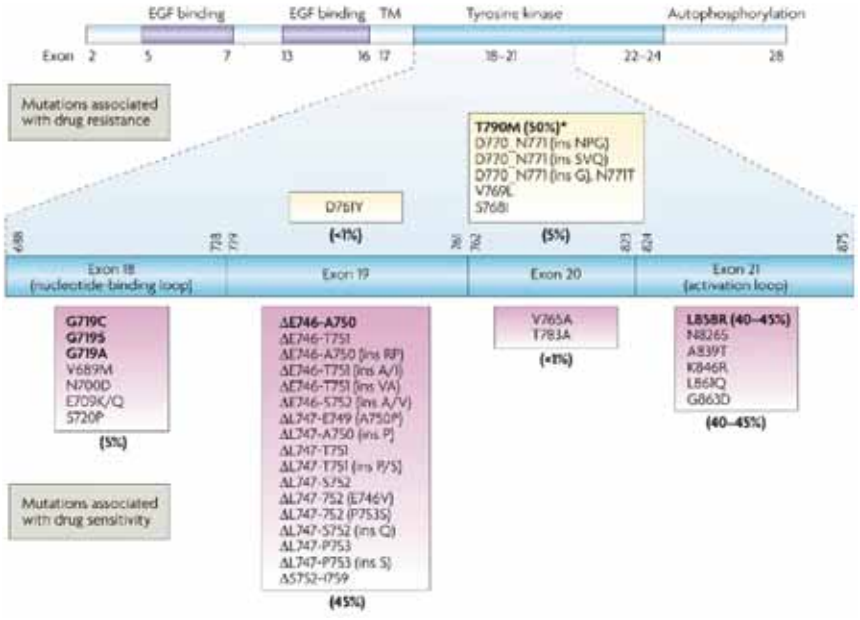
EGFR MUTATION SCREENING IN LUNG CANCERS

Department of Molecular Biology

NSCLC AND EGFR

Lung cancer is the leading cause of cancer-related deaths in the world. Non-small cell lung cancer (NSCLC) represents 70% to 85% of all lung cancer diagnosed. Small molecular agents that target the tyrosine kinase domain of the epidermal growth factor receptor (EGFR) protein are approved for the treatment of locally advanced or metastatic NSCLC as a second- or third-line regimen. Subsequently, randomized trials have suggested that targeted agents alone or combined with chemotherapy may be beneficial in maintenance and first-line settings. Because the combination of targeted therapy and standard chemotherapy leads to an increase in toxicity and cost, strategies that help to identify the individuals most likely to benefit from targeted therapies are desirable. One of the most important markers for targeted therapy of NSCLC is EGFR.

EGFR mutation analysis detects EGFR gene mutations in tumor specimens of patients with non-small cell lung cancer (NSCLC). EGFR, when activated, plays a role in cellular tumor growth and proliferation and is the target of tyrosine kinase inhibitors (TKI). Clinical studies have found that up to 20% of NSCLC tumors harbor the EGFR mutation, and that ~85% of patients with these mutations respond to TKI treatment. Agents such as gefitinib and erlotinib, which prevent ATP binding to EGFR kinase, do not appear to have any meaningful inhibitor activity on tumors that demonstrate the presence of the specific drug-resistant EGFR mutation T790M. Therefore, current data suggest that the efficacy of EGFR-targeted therapies in NSCLC is confined to patients with tumors demonstrating the presence of EGFR- activating mutations such as **L858R, L861Q, G719A/S/C, S768I or small deletions within exon 19** and the absence of the **drug-resistant mutation T790M**. As a result, the mutation status of EGFR can be a useful marker by which patients are selected for EGFR-targeted therapy.



TAT AND ORDERING INFORMATION:			
TEST NAME	**METHOD**	**SPECIMEN**	**REPORTING TIME**
EGFR Mutation Detection	PCR SEQUENCING	Paraffin Embedded Block & Slide + Clinical History	8 DAYS

ISO 9001 International Standard Certification LIC No QAC/R91/3585
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