



EGFR Mutation Test

EGFR Mutation :

- EGFR is a growth factor receptor which results in activation of RAS/MAPK pathway
- Activation of this pathway leads to cell proliferation
- Mutation in EGFR gene causes uncontrolled growth of cells leading to cancer
- EGFR activating mutations are found in exons 18 to 21 of the EGFR gene, which is part of the gene coding for the tyrosine kinase domain of the EGFR protein

EGFR in Lung Cancer:

- Lung cancer is the most frequent form of cancer identified
- Non-Small Cell Lung Cancer represents 70% to 85% of all lung cancers
- Targeted therapies for NSCLC are directed to tumors harboring activating mutations within the *EGFR* tyrosine kinase domain

Why is the test necessary?

- Testing for EGFR mutations at primary diagnosis of advanced NSCLC is recommended to guide treatment decisions
- To detect *EGFR* gene mutations in non-small cell lung cancer tumor cells; knowing whether a mutation is present in the cells can help determine if EGFR-targeted therapies may be beneficial for treating the tumor

About **1** in **7** patients with metastatic NSCLC
have EGFR-positive tumors

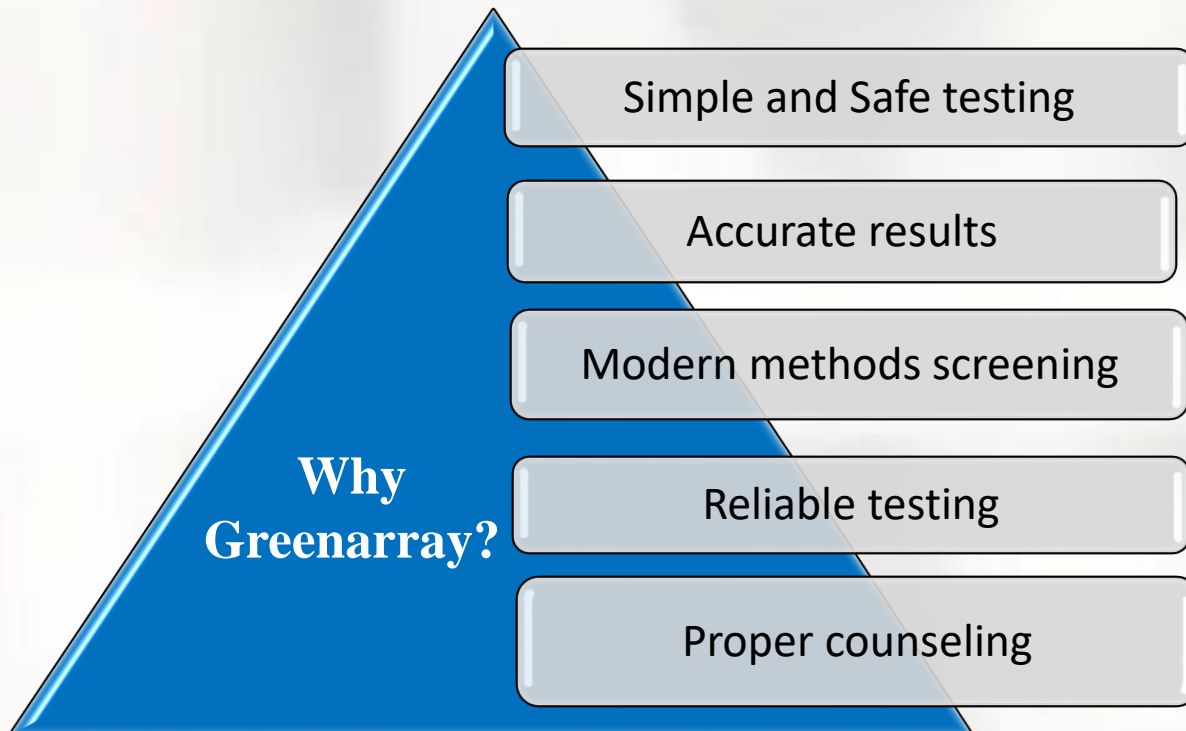
Who should get tested?

- Patients diagnosed with non-small cell lung cancer should be further tested for EGFR mutations
- EGFR mutation analysis is also recommended for patients undergoing therapy for EGFR targeted therapies

Tissue Biopsy sample is required!!

How is the test done?

Tissue sample obtained are analysed using Real Time PCR technique to detect the presence and absence of EGFR mutation



How are the test results interpreted?

Positive: Indicates the response to targeted anti-EGFR TKI therapy

Negative: Indicates that anti-EGFR TKI targeted therapy has shows no response.

References:

- 1.Sharma SV, Bell DW, Settleman J, Haber DA: Epidermal growth factor receptor mutations in lung cancer. Nat Rev Cancer 2007;7(3):169-181
- 2.Gao G,et al: Epidermal growth factor receptor-tyrosine kinase inhibitor therapy is effective as first-line treatment of advanced non-small-cell lung cancer with mutated EGFR: a meta-analysis from six phase III randomized controlled trials. Int J Cancer 2011;131(5):E822-829

About Green Array

Green Array is a molecular diagnostic company. We offers diagnosis of infectious diseases, genetic testing and healthcare information to improve health and wellness. Our goal is to provide high quality affordable and accessible services.