Roche – Your partner in lung cancer patient management
Some facts about lung cancer

Lung cancer is the most common cancer worldwide with more than **1.8 million new cases each year**.

Lung cancer is the leading cause of cancer death for men and women globally with more than **4,000 people dying every day**.

**Poor 5-year survival rate**

when compared to other cancers

- **91%** breast cancer
- **18%** lung cancer

**Main types of lung cancer**

- **85%** non-small cell lung cancer (NSCLC)
- **14%** small cell lung cancer (SCLC)
- **1%** other

>½ of NSCLC tumors favoring adenocarcinoma show a well-characterized oncogenic driver mutation or fusion.

Almost 20 approved therapies are currently being used to treat non-small cell lung cancer.

**16 different lung cancer biomarkers under review in a total of 131 ongoing clinical trials in 2014**.
# The Roche Diagnostics Lung Cancer Portfolio

*From diagnosis to monitoring*

## Diagnosis

<table>
<thead>
<tr>
<th>H&amp;E</th>
<th>IHC</th>
<th>PCR (Plasma/Liquid Biopsy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VENTANA HE 600</td>
<td>Napsin A, NSE, p40, p63, Pan Keratin, SDX-2, Synaptophysin, TAG-72, TTF-1, WT1</td>
<td>EGFR</td>
</tr>
<tr>
<td>IHC</td>
<td>ALK, EGFR, KRAS</td>
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<tr>
<td>c-MET, Calretinin, Cam 5.2, Caveolin-1, CD56, CEA, Chromogranin A, CK5, CK5/6, CK5/14, CK7, CK17, CK20, E-cadherin, EGFR, EMA, Epithelial-Related Antigen, Epithelial-Specific Antigen, HBME-1, IGF-1R, Ki-67, MUC1</td>
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<td>PCR (Tissue)</td>
<td>EGFR, KRAS</td>
<td></td>
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<tr>
<td>IC (Aid In Diagnosis)</td>
<td>CYFRA 21-1, ProGRP-1, SCC</td>
<td></td>
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<tr>
<td>IC (Differential Diagnosis)</td>
<td>ProGRP (SCLC vs. NSCLC)</td>
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</tbody>
</table>

## Prediction

## Monitoring

**Hematoxylin & Eosin Stain (H&E)**

**Immunohistochemistry (IHC)**

**Polymerase Chain Reaction (PCR)**

**Immunohistochemistry (IC)**
Polymerase Chain Reaction (PCR)


Roche lung cancer diagnostics portfolio
Biomarker solutions along the clinical continuum

Initial Assessment

- Imaging
  - CEA, CYFRA21-1, SCC, ProGRP
    - Diagnostic aid in addition to imaging and histology

Cancer Center
  - CT
  - Biopsy

Differential Diagnosis and Staging*

- H&E
  - Histological classification
  - About 70% of NSCLC cases can be diagnosed based on morphological evaluation alone

- IHC
  - Sub-typing
  - About 30% of cases require IHC to subclassify poorly differentiated non-small cell lung carcinomas

- ProGRP, SCC
  - For differential diagnosis in case of histological discrepancies

NSCLC*

- TTF-1 +
  - Napsin A +

SCLC*

- p40 +
  - CK 5/6 +

Adenocarcinoma

Squamous Cell Carcinoma*

Stage I/II

Stage III/IV

Prediction

Stage I/II

Stage III/IV

Therapy Decision

- Surgery

- Targeted Therapy
  - Tarceva® and TAGRISSO™ for EGFR +, XALKORI® for ALK +

In case of resistance

- Chemotherapy

- Radiotherapy

Monitoring

- EGFR™
  - Therapy monitoring of EGFR+ patients

- CEA, CYFRA21-1, NSE, ProGRP
  - Therapy monitoring with serum panel depending on leading biomarker initially elevated

- CEA, CYFRA21-1
  - Recurrence Detection

Imaging

- Immunochemistry (IC)
- Polymerase Chain Reaction (PCR)
- Hematoxylin & Eosin Stain (H&E)/Immunohistochemistry (IHC)

* Currently not available in all countries. Please check for local availability