NIPD GENETICS

NeoThetis

NSCLC therapy selection

NeoThetis NSCLC

of the **NeoSENTIA liquid biopsy** portfolio

Lung cancer is the 2nd most frequently diagnosed type of cancer and the leading cause of cancer deaths worldwide, for both genders. **Non-small cell lung cancer** (NSCLC) accounts for approximately 85% of lung cancer diagnoses. It is a heterogeneous disease consisting of numerous histologies and many known driver mutations. As the location of the tumors is oftentimes inaccessible for a tissue biopsy, a liquid biopsy could be the only way molecular profiling of the tumor can be achieved.

Source: World Health Organization, Global Cancer Observatory

"The use of cell-free/circulating tumor DNA can be considered when a patient is medically unfit for invasive tissue sampling, or if in the initial diagnostic setting there is insufficient material for molecular analysis following pathologic confirmation"
NCCN 2021 guidelines

"Liquid biopsy can be used as the initial test for detection of T790M mutation for second-line treatment of EGFR-mutated NSCLC"
ESMO 2020 guidelines

WHAT IS **NeoThetis** NSCLC THERAPY SELECTION?

NeoThetis NSCLC therapy selection can detect genetic mutations that drive cancer or are associated with sensitivity or resistance to treatments. As a non-invasive, **precision medicine testing approach**, NeoThetis can provide you with invaluable, in-depth genetic insight about your patient's tumor that will help you to enhance clinical management and treatment.

WHAT DOES **NeoThetis** NSCLC THERAPY SELECTION DETECT?

The variants tested in NeoThetis NSCLC therapy selection were selected after thorough research, taking into consideration international clinical practice guidelines for cancer treatment.

NeoThetis NSCLC therapy selection screens for variants that:

- Have **high clinical significance** (Tier 1 and Tier 2 variants according to AMP/ASCO/CAP guidelines)
- Are associated with **targeted therapies**, **including immunotherapy drugs,** approved for use by the **FDA** or **EMA**
- Are included in clinical practice guidelines as set out by **NCCN**, **ESMO** and **ASCO**
- Are part of inclusion or exclusion criteria for **clinical trials**
- Can be indicators for **therapy resistance**

MSI ASSESSMENT	Via NGS, which detects a high number of clinically significant loci
NOVEL BIOINFORMATICS	Providing high classification accuracy
SUPERIOR VARIANT DETECTION	Even at low frequencies, raising sensitivity and specificity
TARGETED TECHNOLOGY	Target capture enrichment technology

NIPD GENETICS NeoSENTIA® liquid biopsy

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NeoThetis NSCLC THERAPY SELECTION

*NeoThetis NSCLC therapy selection screens for single nucleotide variants (SNVs) and small insertions and deletions (INDELS) even at low levels of detection, as well as copy number alterations (CNAs) and rearrangements in a total of **36 genes**. The test also includes Microsatellite Instability (MSI) assessment.*

GENE	SNV/INDELS	CNAs	REARRANGEMENTS
AKT1	◆		
ALK	◆		◆
APC	◆		
ARAF	◆		
ATM	◆		
BRAF	◆		
BRCA2	◆		
CTNNB1	◆		
DDR2	◆		
EGFR	◆	◆	
ERBB2	◆	◆	
ERBB3	◆		
ERBB4	◆		
FBXW7	◆		
FGFR1		◆	
FGFR2		◆	
FGFR3		◆	◆
JAK2	◆		
KEAP1	◆		
KRAS	◆		
MAP2K1	◆		
MET	◆	◆	
NRAS	◆		
NTRK1			◆
NTRK2			◆
NTRK3			◆
PDGFRA	◆		
PIK3CA	◆	◆	
POLE	◆		
PTEN	◆		
RAF1	◆		
RET			◆
ROS1			◆
SMAD4	◆		
STK11	◆		
TP53	◆		

FDA or EMA approved targeted therapies for NSCLC, based on NCCN/ESMO guidelines*

Additional, NCCN/ESMO guideline-recommended targeted therapies and approved targeted therapies are available for other indications.

EGFR	*Afatinib, Erlotinib, Dacomitinib, Gefitinib, Osimertinib, Racucirumab, Amivantamab-vmjw*
EGFR wildtype	*Atezolizumab, Ipilimumab, Nivolumab, Pembrolizumab*
ALK	*Alectinib, Brigatinib, Ceritinib, Crizotinib, Lorlatinib*
ALK wildtype	*Atezolizumab, Ipilimumab, Nivolumab, Pembrolizumab*
ROS1	*Crizotinib, Entrectinib*
BRAF	*Dabrafenib, Trametinib*
MET	*Capmatinib, Tepotinib*
RET	*Pralsetinib, Selpercatinib*
KRAS	*Sotorasib*
NTRK1/2/3 fusions	*Larotrectinib, Entrectinib*
MSI	*Pembrolizumab*

**As of June 2021*

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