



## pulmo CORE 5 Gene Panel

|  |                            |  |
|--|----------------------------|--|
| <b>Primary Tumor Site</b>                  | <b>Specimen Site</b>       | <b>Specimen Type</b>                   |
| N/A  | Left Lung Bronchial biopsy | FFPE                                   |
| <b>Specimen Collection Date &amp; Time</b> |                            | <b>Date &amp; Time of Accessioning</b> |
| 17/07/2024 00:00 Hrs                       |                            | 18/07/2024 12:20 Hrs                   |

Case Number: **24010011306**  
 Patient Name: **Y. P. I Kumari**  
 Age/Sex: **46 Yrs/Female**  
 Patient Location: **Colombo**  
 Hospital Name: **Aegle Omics Private Limited**  
 Physician Name: **Dr. Sujeewa Siyambalapatiya**  
 Date & Time of Reporting: **05/08/2024 15:39 Hrs**

### TEST INFORMATION

**pulmo CORE 5 gene panel** is a **Next Generation Sequencing (NGS)** based assay that identifies clinically relevant genomic alterations within the 5 genes (**EGFR, ALK, ROS1, MET, BRAF**) that are most frequently altered in Non Small Cell Lung Cancer (NSCLC).

### SPECIMEN INFORMATION

Received 01 paraffin block labelled as RP3143. Tumor content: 30%.

### CLINICAL HISTORY

Non small cell carcinoma (NOS).

### RESULTS

| MUTATION TYPE                | GENES TESTED | RESULTS                       |
|------------------------------|--------------|-------------------------------|
| SNVs, short indels & Fusions | <b>ALK</b>   | Not Detected                  |
| SNVs and short indels        | <b>EGFR</b>  | Not Detected                  |
| SNVs and short indels        | <b>BRAF</b>  | Not Detected                  |
| SNVs and short indels        | <b>MET</b>   | Not Detected                  |
| Fusions                      | <b>ROS1</b>  | <b>Detected (ROS1 fusion)</b> |



Aditi Aggarwal, Molecular Scientist

Dr. Rahul Katara, Ph.D.

Dr. Shivani Sharma  
 DCP, DNB, DipRCPath. Reg. No. 1906

### RESULTS



# 1

### Genomic Finding

Variant Found: **ROS1 fusion**

Variant Classification (AMP): **Tier1**

Variant Classification (ACMG): **Pathogenic**



# 3

**FDA Approved Therapy (in this cancer type)**  
**Crizotinib, Entrectinib & Repotrectinib**



# 3

**FDA Approved Drugs in another Indication, OFF LABEL Suggestions**

**Cabozantinib**

**Lorlatinib**

**Ceritinib**



# 7

### Clinical Trials

For more details, please refer to Clinical Trials Page

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapitiya

## RESULTS

Clinically Relevant Variants Detected:

### VARIANT SUMMARY

| Gene (Exon)<br>[Transcript] | Locus         | Variant<br>(Amino acid<br>Alteration) | Variant<br>(Coding) | Variant Allele<br>Frequency<br>(VAF) | Variant<br>Effect* | Variant Classifica-<br>tion (AMP)** | Variant Classifi-<br>cation (ACMG)# |
|-----------------------------|---------------|---------------------------------------|---------------------|--------------------------------------|--------------------|-------------------------------------|-------------------------------------|
| ROS1                        | chr17:7577538 | CD74(6) - ROS1<br>(34)                | Fusion              | 57391                                | GOF                | Tier1                               | Pathogenic                          |

\*Variant effect: **GOF**: Gain of Function; **LOF**: Loss of Function

\*\*Four Tiered Classification System based as per Standards and Guidelines for the Interpretation and Reporting of Sequence Variants in Cancer, by Association for Molecular Pathology with liaison representation from the American College of Medical Genetics and Genomics, American Society of Clinical Oncology, and College of American Pathologists. [PMID: [27993330](#), [28157586](#)]

**Tier1**: variants with strong clinical significance for therapy, prognosis and diagnosis for the same tumor type

**Tier2**: variants with potential clinical significance for therapy, prognosis and diagnosis for the different tumor type

**Tier3**: variants of unknown clinical significance (VUS)

**Tier4**: variants deemed benign or likely benign.

#Five Tiered Classification based on ACMG guidelines [PMID: [25741868](#)]

**Pathogenic**

**Likely Pathogenic**

**Variant of Unknown Significance (VUS)**

**Likely Benign**

**Benign**

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

## THERAPY RECOMMENDATIONS

### FDA Approved Drugs in the current indication

| DRUGS                | Indication                             | Target Gene  | Target Gene present in the current Indication | Clinical Trial (Current Indication)                     |
|----------------------|--|--------------|---|---|
| <b>Crizotinib</b>    | ROS1 and ALK-positive Metastatic NSCLC | ROS1 fusions | ROS1 fusion                                   | For more details, please refer to clinical trials page. |
| <b>Entrectinib</b>   | ROS1 positive Metastatic NSCLC         | ROS1 fusions | ROS1 fusion                                   |   |
| <b>Repotrectinib</b> | ROS1 positive Metastatic NSCLC         | ROS1 fusions | ROS1 fusion                                   |   |

### FDA Approved Drugs in another Indication, OFF LABEL Suggestions

| DRUGS               | Indication  | Target Gene  | Target Gene present in the current Indication | Clinical Trial (Current Indication)                     |
|---------------------|---|--------------|---|---|
| <b>Cabozantinib</b> | Medullary thyroid cancer<br>and<br>Renal cell carcinoma | ROS1 fusions | ROS1 fusion                                   | For more details, please refer to clinical trials page. |
| <b>Lorlatinib</b>   | ALK-positive metastatic NSCLC                           | ROS1 fusions | ROS1 fusion                                   |   |
| <b>Ceritinib</b>    | ALK-positive metastatic NSCLC                           | ROS1 fusions | ROS1 fusion                                   |   |

**Off Label:** Drugs approved in another indication.

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

## CLINICAL TRIALS TABLE

| Clinical Trials Table       |                      |               |   |        |            |
|-----------------------------|----------------------|---------------|---|--------|------------|
| Clinical Trial              | Indication           | Drug          | Title   | Phase  | Status     |
| <a href="#">NCT01639508</a> | NSCLC                | Cabozantinib  | Phase II Study of Cabozantinib in Patients With RET Fusion-Positive Advanced Non-Small Cell Lung Cancer and Those With Other Genotypes: ROS1 or NTRK Fusions or Increased MET or AXL Activity   | II     | Recruiting |
| <a href="#">NCT02795156</a> | Multiple Tumor Types | Cabozantinib  | Phase II Study to Evaluate the Activity of Commercially Available Molecularly Matched Targeted Therapies in Selected Tumor Types Based on Genomic Alterations   | II     | Recruiting |
| <a href="#">NCT03439215</a> | NSCLC                | Lorlatinib    | PF-06463922 for Crizotinib Pretreated ROS1 Positive Non-small-cell Lung Cancer: a Phase II Trial (PFROST)   | II     | Recruiting |
| <a href="#">NCT02927340</a> | NSCLC                | Lorlatinib    | A Phase II Study of Lorlatinib (PF-06463922) in Advanced Anaplastic Lymphoma Kinase (ALK) and ROS Proto-Oncogene 1 (ROS1) Rearranged Non-Small Cell Lung Cancer (NSCLC) With Central Nervous System (CNS) Metastasis in the Absence of Measurable Extracranial Lesions                            | II     | Recruiting |
| <a href="#">NCT02568267</a> | Multiple Tumor Types | Entrectinib   | An Open-Label, Multicenter, Global Phase 2 Basket Study of Entrectinib for the Treatment of Patients With Locally Advanced or Metastatic Solid Tumours That Harbor NTRK1/2/3, ROS1, or ALK Gene Rearrangements  | II     | Recruiting |
| <a href="#">NCT03178552</a> | NSCLC                | Entrectinib   | A Phase II/III Multicenter Study Evaluating the Efficacy and Safety of Multiple Targeted Therapies as Treatments for Patients With Advanced or Metastatic Non-Small Cell Lung Cancer (NSCLC) Harboring Actionable Somatic Mutations Detected in Blood (B-FAST: Blood-First Assay Screening Trial) | II/III | Recruiting |
| <a href="#">NCT03093116</a> | NSCLC                | Repotrectinib | A Study of Repotrectinib (TPX-0005) in Patients With Advanced Solid Tumors Harboring ALK, ROS1, or NTRK1-3 Rearrangements (TRIDENT-1)   | II     | Recruiting |

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

### VARIANT INTERPRETATION

| CD74 -ROS1 fusion                                  |   |
|--|---|
| <b>Variant Annotation</b>                          | The identified CD74-ROS1 fusion, arises from the fusion of 5' region of CD74 to the 3' region (exon 34 to 43) of ROS1 gene and has been reported to result in aberrant over-expression of CD74 -ROS1 fusion transcript and hence, leading to ligand-independent constitutive activation of ROS1 kinase activity and over activation of downstream canonical signaling pathways, including Ras/Mek/Erk and PI3K/Akt cascades and ROS1 rearranged tumours have shown increased cellular growth and survival thereby, suggesting a gain of function mutation [ <a href="#">MyCancerGenome</a> , PMID: <a href="#">23719267</a> , <a href="#">22919003</a> ]. |
| <b>Gene Summary</b>                                | ROS1 is a proto-oncogene, highly-expressed in a variety of tumour cell lines, belongs to the sevenless subfamily of tyrosine kinase insulin receptor genes. The protein encoded by this gene is a type I integral membrane protein with tyrosine kinase activity. The protein may function as a growth or differentiation factor receptor [Gene ID: <a href="#">6098</a> ].   |
| <b>Variant incidence in disease</b>                | NSCLC remains the leading cause of cancer-related deaths globally. ROS1 gene fusions have been reported in 2% of NSCLC tumours [ <a href="#">ROS1</a> ]. Several different ROS1 rearrangements, including, SLC34A2-ROS1, CD74-ROS1, EZR-ROS1, TPM3-ROS1, and SDC4-ROS1 have been described and are non-overlapping with other oncogenic mutations found in NSCLC (e.g., EGFR mutations, KRAS mutations, ALK fusions, etc) [ <a href="#">MyCancerGenome</a> , PMID: <a href="#">23788756</a> , <a href="#">22215748</a> , <a href="#">2232762</a> , <a href="#">28342334</a> ].  |
| <b>Overall Effect of ROS1 inhibitors in Cancer</b> | Number of clinical and preclinical studies have reported significant anti-tumour activity w.r.t significant down-regulation of cell proliferation, growth and survival, with the direct inhibition of ROS1 fusion proteins and has shown remarkable clinical efficacy in NSCLC patients harboring ROS1 rearrangement [PMID: <a href="#">22919003</a> , <a href="#">27413712</a> , <a href="#">25888090</a> , <a href="#">30410351</a> , <a href="#">28893136</a> , <a href="#">29961337</a> ].  |

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

### THERAPEUTIC RELEVANCE

#### CRIZOTINIB

##### DRUG DEFINITION

Crizotinib is an orally available aminopyridine-based inhibitor of the receptor tyrosine kinase anaplastic lymphoma kinase (ALK) and the c-Met/hepatocyte growth factor receptor (HGFR) with antineoplastic activity. Crizotinib, in an ATP-competitive manner, binds to and inhibits ALK kinase and ALK fusion proteins. In addition, crizotinib inhibits c-Met kinase, and disrupts the c-Met signaling pathway. Altogether, this agent inhibits tumor cell growth. ALK belongs to the insulin receptor superfamily and plays an important role in nervous system development. ALK dysregulation and gene rearrangements are associated with a series of tumors.

##### FDA APPROVAL

Crizotinib is approved to treat:

Anaplastic large cell lymphoma that is ALK positive and systemic. It is used in children aged 1 year and older and young adults with relapsed or refractory disease.

Non-small cell lung cancer that is ALK positive or ROS1 positive and has metastasized (spread to other parts of the body).

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapitiya

## THERAPEUTIC RELEVANCE

| ENTRECTINIB                   |  |
|-------------------------------|--|
| <b><u>DRUG DEFINITION</u></b> | <p>ENTRECTINIB is an orally bioavailable inhibitor of the tyrosine kinases tropomyosin receptor kinases (Trk) A, B and C, C-ros oncogene 1 (ROS1) and anaplastic lymphoma kinase (ALK), with potential antineoplastic activity. Upon administration, entrectinib binds to and inhibits TrkA, TrkB, TrkC, ROS1 and ALK. Inhibition of these kinases may result in a disruption of TrkA-, TrkB-, TrkC-, ROS1-, and ALK-mediated signaling. This leads to an induction of apoptosis and an inhibition of tumor cell proliferation in tumor cells that express these kinases. TrkA, TrkB, TrkC, ROS1 and ALK are overexpressed in a variety of cancer cell types.</p>  |
| <b><u>FDA APPROVAL</u></b>    | <p>Entrectinib is approved to treat:</p> <ul style="list-style-type: none"> <li>• Non-small cell lung cancer that is ROS1 positive. It is used in adults whose cancer has metastasized (spread to other parts of the body).</li> <li>• Solid tumors that have an NTRK gene fusion without a drug-resistance mutation in certain TRK proteins. It is used in adults and in children aged 12 years or older whose cancer has metastasized or cannot be removed by surgery and has gotten worse after other treatment or cannot be treated with other therapies.<sup>1</sup></li> <li>• <sup>1</sup>This use is approved under FDA's Accelerated Approval Program. As a condition of approval, confirmatory trial(s) must show that entrectinib provides a clinical benefit in these patients.</li> </ul> |

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

### THERAPEUTIC RELEVANCE

#### REPOTRECTINIB

##### DRUG DEFINITION

Repotrectinib is an orally available inhibitor of multiple kinases, including the receptor tyrosine kinase anaplastic lymphoma kinase (ALK), c-ros oncogene 1 (ROS1), the neurotrophic tyrosine receptor kinase (NTRK) types 1, 2 and 3, the proto-oncogene SRC, and focal adhesion kinase (FAK), with potential antineoplastic activity. Upon oral administration, repotrectinib binds to and inhibits wild-type, point mutants and fusion proteins of ALK, ROS1, NTRK1-3, SRC, FAK and, to a lesser extent, other kinases. Inhibition of these kinases leads to the disruption of downstream signaling pathways and the inhibition of cell growth of tumors in which these kinases are overexpressed, rearranged or mutated.

##### FDA APPROVAL

- On November 15, 2023, the Food and Drug Administration approved repotrectinib (Augtyro, Bristol-Myers Squibb Company) for locally advanced or metastatic ROS1-positive non-small cell lung cancer (NSCLC).
- This is the first FDA approval that includes patients with ROS1-positive NSCLC who have previously received a ROS1 tyrosine kinase inhibitor (TKI), in addition to patients who are TKI naïve.

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapitiya

### THERAPEUTIC RELEVANCE

| CABOZANTINIB                  |  |
|-------------------------------|--|
| <b><u>DRUG DEFINITION</u></b> | <p>Cabozantinib is an orally bioavailable, small molecule receptor tyrosine kinase (RTK) inhibitor with potential antineoplastic activity. Cabozantinib strongly binds to and inhibits several RTKs, which are often overexpressed in a variety of cancer cell types, including hepatocyte growth factor receptor (MET), RET (rearranged during transfection), vascular endothelial growth factor receptor types 1 (VEGFR-1), 2 (VEGFR-2), and 3 (VEGFR-3), mast/stem cell growth factor (KIT), FMS-like tyrosine kinase 3 (FLT-3), TIE-2 (TEK tyrosine kinase, endothelial), tropomyosin-related kinase B (TRKB) and AXL. This may result in the inhibition of both, tumour growth and angiogenesis, eventually leading to tumour regression.</p> |
| <b><u>FDA APPROVAL</u></b>    | <p>Cabozantinib-s-malate is approved to treat:</p> <ul style="list-style-type: none"> <li>• Hepatocellular carcinoma (a type of liver cancer). It is used in patients who have already been treated with sorafenib. This use is approved for the Cabometyx brand of cabozantinib-s-malate.</li> <li>• Medullary thyroid cancer that is progressive and has metastasized (spread to other parts of the body). This use is approved for the Cometriq brand of cabozantinib-s-malate.</li> <li>• Renal cell carcinoma (a type of kidney cancer) that is advanced. This use is approved for the Cabometyx brand of cabozantinib-s-malate.</li> </ul>   |

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

### THERAPEUTIC RELEVANCE

#### LORLATINIB

##### DRUG DEFINITION

LORLATINIB is an orally available, ATP-competitive inhibitor of the receptor tyrosine kinases, anaplastic lymphoma kinase (ALK) and C-ros oncogene 1 (Ros1), with potential antineoplastic activity. Upon administration, lorlatinib binds to and inhibits both ALK and ROS1 kinases. The kinase inhibition leads to disruption of ALK- and ROS1-mediated signaling and eventually inhibits tumor cell growth in ALK- and ROS1-overexpressing tumor cells. In addition, lorlatinib is able to cross the blood brain barrier. ALK belongs to the insulin receptor superfamily and plays an important role in nervous system development; ALK dysregulation and gene rearrangements are associated with a series of tumors. ROS1, over-expressed in certain cancer cells, plays a key role in cell growth and survival of cancer cells.

##### FDA APPROVAL

Lorlatinib is approved to treat adults with:

- Non-small cell lung cancer that is ALK positive and has metastasized (spread to other parts of the body).

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapatiya

### THERAPEUTIC RELEVANCE

#### CERITINIB

##### DRUG DEFINITION

CERITINIB is an orally available inhibitor of the receptor tyrosine kinase activity of anaplastic lymphoma kinase (ALK) with antineoplastic activity. Upon administration, ceritinib binds to and inhibits wild-type ALK kinase, ALK fusion proteins and ALK point mutation variants. Inhibition of ALK leads to both the disruption of ALK-mediated signaling and the inhibition of cell growth in ALK-overexpressing tumor cells. ALK belongs to the insulin receptor superfamily and plays an important role in nervous system development. ALK dysregulation and gene rearrangements are associated with a variety of tumor cell types.

##### FDA APPROVAL

Ceritinib is approved to treat:

- Non-small cell lung cancer that is ALK positive and has metastasized (spread to other parts of the body). It is used in adults.

Case Number: **24010011306**

Patient Name: **Y. P. I Kumari**

Ordering Physician Name: **Dr. Sujeewa Siyambalapitiya**

## METHODOLOGY

DNA and mRNA from FPPE samples were extracted and subjected to Next Generation Sequencing (NGS) using the Ion S5 System. High quality nucleic acids that passed QC checks were subjected to library preparation and analysed for relevant genomic alterations such as hotspots, indels and fusions in genes mentioned in table 1.

Sequencing was performed to achieve a minimum 500x depth of coverage. The output sequences were aligned to the human reference genome hg19 (GRCh37). Raw data analysis, alignments, and variant calling was done using the Torrent Variant Caller. High quality sequencing data was then analysed using the optimized ION Torrent Suite and the ION Reporter software to accurately detect rare somatic variants. The hotspots, indels and fusions were analyzed with the help of the ION Reporter Software and variants were annotated according to the American College of Medical Genetics (ACMG) and AMP guidelines. NCBI dbSNP, Catalogue of Somatic Mutations in Cancer (COSMIC), The Exome Aggregation Consortium and ClinVar as well as protein function prediction

**Table 1: Gene list and coverage of hot spot region of analysed gene**

| Genes Covered | Type of Mutations Covered | Gene Coverage  |
|---------------|---------------------------|--|
| ALK           | SNVs, Indels and Fusions  | Exons 23, 25 and all major clinically relevant fusions |
| BRAF          | SNVs and Indels           | Exons 11, 15   |
| EGFR          | SNVs and Indels           | Exons 3, 7, 15, 18, 19, 20, 21                         |
| MET           | SNVs and Indels           | Exons 2, 14, 16, 19                                    |
| ROS1          | Fusions                   | All major clinically relevant fusions                  |

**For the index patient, percentage of mapped reads aligned to the target region was 95.98% with a 83.87% Target base coverage at 500X.**

Case Number: 24010011306

Patient Name: Y. P. I Kumari

Ordering Physician Name: Dr. Sujeewa Siyambalapitiya

## COMMENTS

- It is recommended that the most recent block is used for testing as the mutation profile may change in response to treatment and hence differ at different sampling points.
- To achieve optimal sensitivity, this assay requires a minimum of 10-100 ng DNA and 100-200 ng RNA.
- Reporting was done only for variants with a minimum coverage of >500X. Not all mutations detected are listed in this report. Inclusion of mutations is dependent upon our assessment of their significance. Furthermore, this NGS test does not detect other regions of the genome such as copy number variations (CNVs), gross deletion/duplications and other gross chromosomal abnormalities which have been implicated in cancer and may be uncovered through additional testing.
- The results and interpretation are based on current knowledge and might change in the future. Some findings listed in this report may be based on pre-clinical studies or studies not in the given patient's tumor type.
- Uncertainty, if present, is/are always communicated in reports; this includes issues of sequence quality, sample adequacy, tumor content, and biomedical knowledge. Despite all precautions taken, the error (administrative and technical) associated with these types of molecular diagnostic tests can be as high as 1% to 2%. Rare polymorphisms may be present that could lead to false negative or false positive results. Also, the sensitivity to detect variants in the vicinity of homopolymer regions may be reduced. Furthermore, A negative (wild type) result does not rule out the presence of a mutation or rearrangement resulting in targeted fusion, that may be present but below the limits of detection of this assay.
- Test results should be interpreted in context of clinical findings, tumor sampling, histopathology and other laboratory data. If results obtained do not match other clinical or laboratory findings, please contact the laboratory for possible interpretation. Misinterpretation of results may occur if the information provided is inaccurate or incomplete. Additionally, The presence or absence of a mutation or fusion may not be predictive of response to therapy in all patients. The selection of any treatment or potential treatment suggested by a biomarker resides within the discretion and judgment of the treating physician and patient. Decisions on patient care should be based on the independent medical judgment of the treating physician based upon all available clinical information, according to the applicable standard of care and should not be based

Case ID : 24010011306  
 Patient Name : Mrs. Y.P.I KUMARI  
 Age/DOB/Sex : 46 Years / / Female  
 Hospital Name : Aegle Omics (Private) Limited, Colombo  
 Physician Name : DR SUJEEWA SIYAMBALAPITIYA  
 Registration On : 18-Jul-2024 12:20  
 Collection On : 17-Jul-2024 00:00  
 Reported On : 23-Jul-2024 14:52  
 Process AT : CORE-Gurugram  
 Ref ID :  
 Sample Type : FFPE Block  
 Report Status : Final



**UNIQUE PATIENT ID : 113728**

## TEST NAME

PDL-1 SP263 Ventana

## SPECIMEN INFORMATION

Received one paraffin block labeled as (RP3143) 495RP27/06

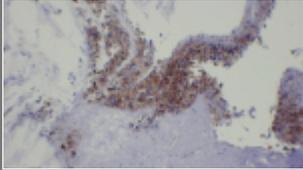
## CLINICAL HISTORY

L/LL lesion, LB6 obstructed with necrotic lesion.

## METHODOLOGY

Immunohistochemistry

## RESULTS

| MARKERS(CLONES) | RESULT                      | IMAGE   |
|-----------------|-----------------------------|---|
| PD-L1 (SP263)   | TUMOR PROPORTION SCORE: 40% |  |

## INTERPRETATION

1. Positive PD-L1 staining/expression is defined as complete and/or partial, circumferential or linear plasma membrane staining at any intensity that can be differentiated from background and diffuse cytoplasmic staining.
2. The Tumor Proportion Score is the percentage of viable tumor cells showing partial or complete membrane staining ( $\geq 1+$ ) relative to all viable tumor cells present in the sample (positive and negative).
3. Scoring is interpreted as follows :
  - o No PD-L1 expression (TPS  $<1\%$ )
  - o Low PD-L1 expression (TPS 1-49%)
  - o High PD-L1 expression (TPS  $\geq 50\%$ )
4. The tumor should be considered PD-L1 positive, and the patient with NSCLC is eligible for pembrolizumab first-line therapy if the specimen shows high PD-L1 expression (TPS  $\geq 50\%$ ), while at least PD-L1 expression (1-49% TPS) is required for treatment in second-line or later.
5. Positive PD-L1 staining/expression is defined as complete and/or partial, circumferential or linear plasma membrane staining at any intensity that can be differentiated from background and diffuse cytoplasmic staining.
6. The percentage of tumor cells that exhibit PDL.1 expression is recorded as PD-L1 tumor cell (TC) score.
7. Combined Positive Score (CPS), which is the number of PD-L1 staining cells (tumor cells, lymphocytes, macrophages\*) divided by the total viable tumor cells, multiplied by 100. Although the result of the calculation can exceed 100, the maximum score is defined as CPS 100.

*Mallika*

**Dr. Mallika Dixit**

DNB, Reg. No. 24061

**CORE DIAGNOSTICS™**

Case ID : 24010011306  
 Patient Name : Mrs. Y.P.I KUMARI  
 Age/DOB/Sex : 46 Years / / Female  
 Hospital Name : Aegle Omics (Private) Limited, Colombo  
 Physician Name : DR SUJEEWA SIYAMBALAPITIYA  
 Registration On : 18-Jul-2024 12:20  
 Collection On : 17-Jul-2024 00:00  
 Reported On : 23-Jul-2024 14:52  
 Process AT : CORE-Gurugram  
 Ref ID :  
 Sample Type : FFPE Block  
 Report Status : Final



**UNIQUE PATIENT ID : 113728**

8. **Recurrent/ metastatic head and neck squamous cell carcinoma:** The specimen should be considered to have PD-L1 expression if CPS  $\geq$  1.
9. **Gastric or Gastroesophageal Junction (GEJ) Adenocarcinoma:** The specimen should be considered to have PD-L1 expression if CPS  $\geq$  1.
10. **Cervical cancer:** The specimen should be considered to have PD-L1 expression if CPS  $\geq$  1.
11. **Urothelial cancer:** The specimen should be considered to have PD-L1 expression if CPS  $\geq$  10.
12. **Esophageal Squamous Cell Carcinoma:** CPS greater than or equal to 10 PD-L1 IHC 22C3 pharmDx is indicated as an aid in identifying esophageal squamous cell cancer patients for treatment with KEYTRUDA® (pembrolizumab).

## COMMENTS

1. Programmed Cell Death Ligand 1 (PD-L1) [also called B7 Homolog 1 (B7-H1) or CD274] is a protein encoded by the CD274 gene. It is crucial in maintaining immune homeostasis. PD-L1 works by attaching to the T-cell receptors called PD1 and B7.1 (both inactivate T cells). PD-L1 is an important prognostic and theranostic biomarker in the study of several neoplasms. PDL1 overexpression may facilitate tumor growth & metastasis, and has been observed in carcinomas of Lung, Thymus, Bladder, Colon, Pancreas, Ovary, Kidney, Breast, Melanoma and Glioblastoma.

## REFERENCES

- Igawa S, Sato Y, Ryuge S, Ichinoe M, Katono K, Hiyoshi Y, Otani S, Nagashio R, Nakashima H, Katagiri M, Sasaki J, Murakumo Y, Satoh Y, Masuda N. Impact of PDL-1 Expression in Patients with Surgically Resected Non-Small-Cell Lung Cancer. *Oncology*. 2017 Feb 22. doi: 10.1159/000458412.
- Gaule P, Smithy JW, Toki M, Rehman J, Patell-Socha F, Cougot D, Collin P, Morrill P, Neumeister V, Rimm DL. A Quantitative Comparison of Antibodies to Programmed Cell Death 1 Ligand 1. *JAMA Oncol*. 2016 Aug 18. doi: 10.1001/jamaoncol.2016.3015.
- Ratcliffe MJ, Sharpe A, Midha A, Barker C, Scott M, Scorer P, Al-Masri H, Rebelatto MC, Walker J. Agreement between Programmed Cell Death Ligand-1 Diagnostic Assays across Multiple Protein Expression Cutoffs in Non-Small Cell Lung Cancer. *Clin Cancer Res*. 2017 Jan 10. doi: 10.1158/1078-0432.CCR-16-2375.
- Diggs LP, Hsueh EC. Utility of PDL-1 immunohistochemistry assays for predicting PD-1/PDL-1 inhibitor response. *Biomark Res*. 2017 Mar 15;5:12. doi: 10.1186/s40364-017-0093-8



Scan to Connect

If you have any questions about this report or would like to have a conversation about the test results, please feel free to reach out to us at

**+91 88828 99999** or **info@corediagnostics.in**

## CONDITIONS OF REPORTING

1. The tests are carried out in the lab with the presumption that the specimen belongs to the patient named or identified in the bill/test request form.
2. The test results relate specifically to the sample received in the lab and are presumed to have been generated and transported per specific instructions given by the physicians/laboratory.
3. The reported results are for information and are subject to confirmation and interpretation by the referring doctor.
4. Some tests are referred to other laboratories to provide a wider test menu to the customer.
5. CORE Diagnostics Pvt. Ltd. shall in no event be liable for accidental damage, loss, or destruction of specimen, which is not attributable to any direct and mala fide act or omission of CORE Diagnostics Pvt. Ltd. or its employees. Liability of CORE Diagnostics Pvt. Ltd. for deficiency of services, or other errors and omissions shall be limited to fee paid by the patient for the relevant laboratory services.

This report is the property of CORE Diagnostics. The information contained in this report is strictly confidential and is only for the use of those authorized. If you have received this report by mistake, please contact CORE Diagnostics

### **CORE Diagnostics (Central Reference Lab) - Gurugram**

406, Udyog Vihar, Phase III, Gurugram, Haryana - 122016

### **CORE Diagnostics Satellite Lab - New Delhi**

C-13, 1st Floor, Green Park Extension, New Delhi - 110016

67, Hargobind Enclave, New Delhi - 110092

H64, Block H, Bali Nagar, New Delhi - 110015

### **CORE Diagnostics Satellite Lab - Bhubaneswar**

Plot No. - 249, Near Police Academy, AIIMS Nagar,  
Patrapada, Bhubaneswar - 751019

### **CORE Diagnostics Satellite Lab - Bangalore**

1st Floor, KMK Tower, 142 KH Road,  
Bangalore - 560027

### **CORE Diagnostics Satellite Lab - Lucknow**

J.S. Tower, Plot No. - K-702, Sector K, Ashiyana, Near Raj  
Luxmi Sweets, Lucknow, Uttar Pradesh - 226012

### **CORE Diagnostics Satellite Lab - Guwahati**

Ground Floor, Honuram Boro Path, Shubham Velocity, GS Road,  
Dispur, Kamrup Metropolitan, Guwahati, Assam - 781005

### **CORE Diagnostics Satellite Lab -Hyderabad**

S. No.155, Mahalakshmi Trade Center, 2nd Floor, Thokatta -Village,  
Diamond Point Road, Bowenpally, Secunderabad,Telangana-500009