

Patient NAME John A	DATE OF BIRTH 1975-Sep-02	DISEASE Healthy / Screening	STAGE N/A	Physician NAME Administrator
SPECIMEN 15ml Blood	VIAL IDs 100000			

REPORT SUMMARY

According to the gene expression profile of peripheral mononuclear cells, the sample is classified as **Healthy**.

Information

Laboratory Process

- Isolation of Peripheral Blood Mononuclear Cells (PBMCs) using a density gradient medium and centrifugation
- Extraction of mRNA
- Reversed transcription of mRNA to cDNA
- Real-Time Quantitative Polymerase Chain Reaction in more than 90 genes
- Relative Gene Expression analysis
- Classification with different algorithms (Machine Learning- Classifiers):
 - Support Vector Machines (SVM)
 - Nearest Neighbor (NN)
 - Ensemble
 - Neural Networks
- Genes which are studied associated with:
 - Cell Cycle Regulation
 - Angiogenesis
 - Apoptosis
 - Self-Repair Mechanisms
 - Signal Transduction pathways
 - Akt Signaling Pathway
 - JAK-STAT Signaling Pathway
 - MAPK Signaling Pathway
 - mTOR Signaling Pathway
 - NF-kB Signaling Pathway
 - P53 Signaling Pathway
 - TGF-β Signaling Pathway
 - VEGF Signaling Pathway etc.

Disclaimers

The recommended assay is based on the synergy of molecular biology with artificial neural networks.

Onco-D-Clare is not a stand alone test and further investigations are needed to confirm the presence of a tumor in your body. Please work with your practitioner to do so as further investigations are recommended

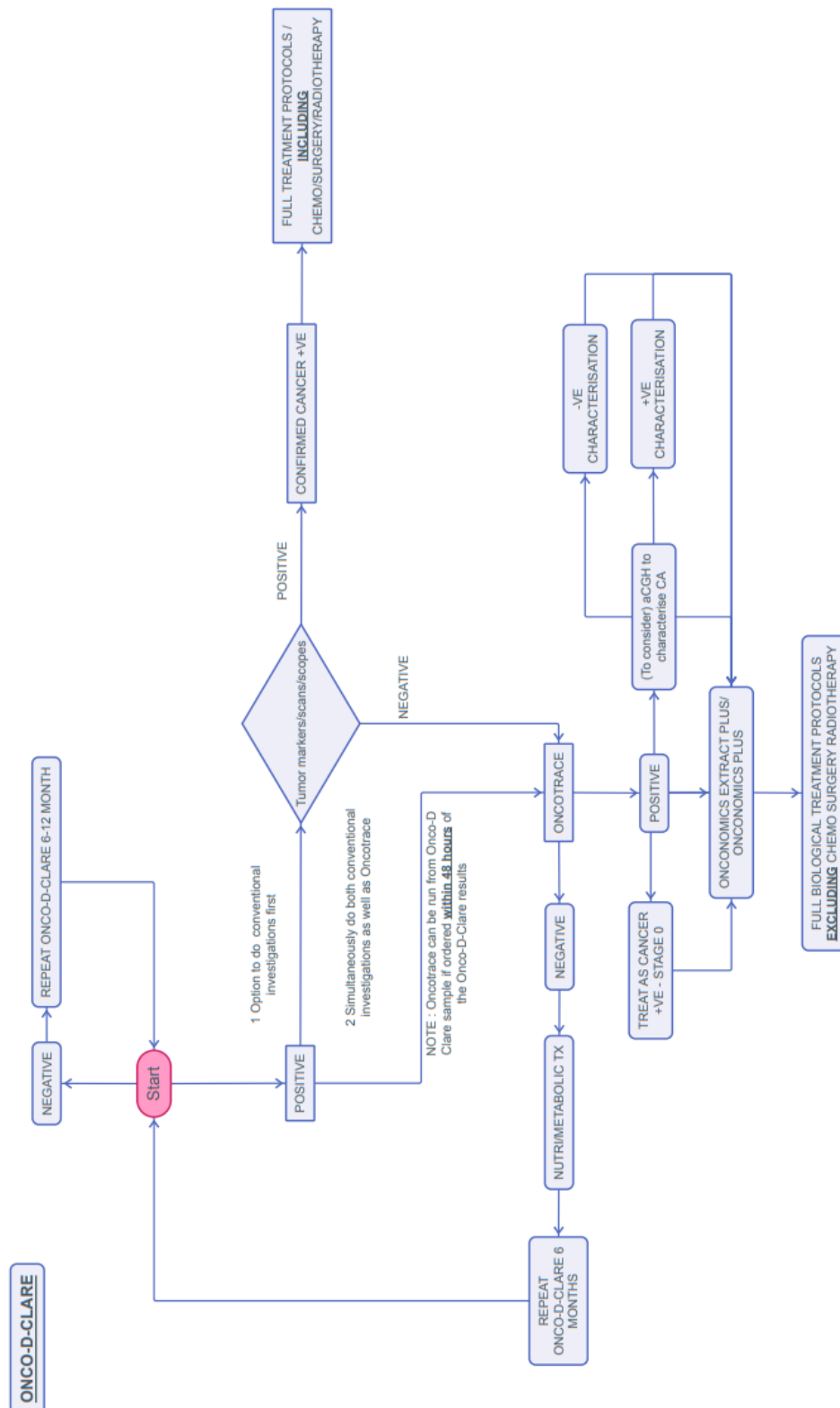
- Accuracy (%) = 93.34 ± 2.88
- True Positive Rate (%) = 92.40 ± 5.68
- True Negative Rate (%) = 94.78 ± 6.78

Sincerely,

Dr. Ioannis Papatotiriou MD, PhD, SCym

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- e. Swanson K, Wu E, Zhang A, Alizadeh AA, Zou J. From patterns to patients: Advances in clinical machine learning for cancer diagnosis, prognosis, and treatment. *Cell*. 2023 Apr 13;186(8):1772–1791. doi: 10.1016/j.cell.2023.01.035. Epub 2023 Mar 10. PMID: 36905928.
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- g. Larsson AM, Nordström O, Johansson A, Rydén L, Leandersson K, Bergenfelz C. Peripheral Blood Mononuclear Cell Populations Correlate with Outcome in Patients with Metastatic Breast Cancer. *Cells*. 2022 May 13;11(10):1639. doi: 10.3390/cells11101639. PMID: 35626676; PMCID: PMC9139201.

Onco-D-clare Flow Chart



Cancer Flow Chart

