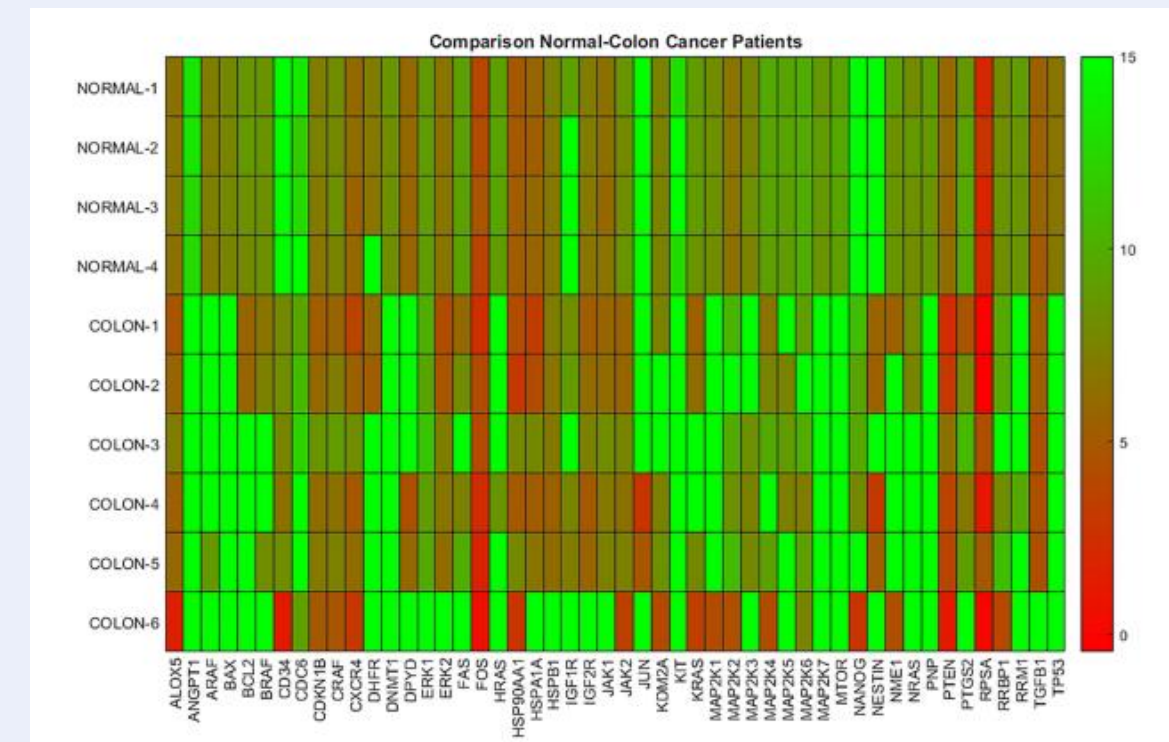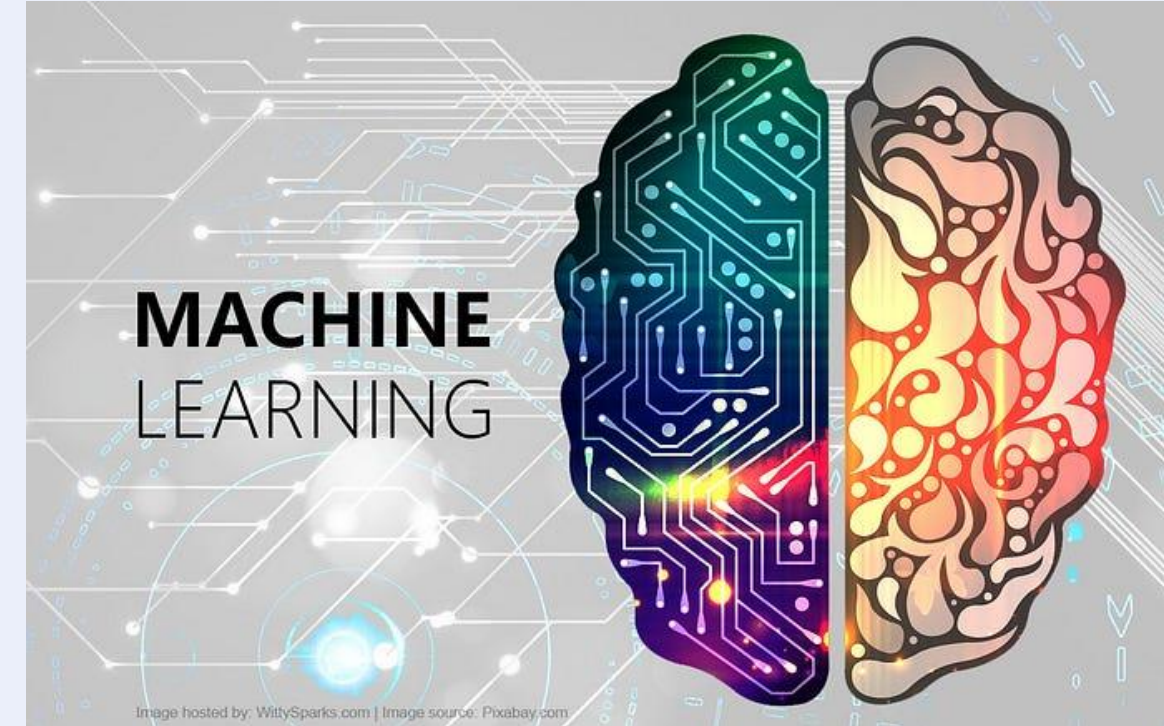# Onco-D-clare

What is Onco-D-clare?

- **Onco-D-clare** is a screening cancer test
- It is based on:
  - Gene Expression Analysis
  - Machine Learning Algorithms
- It can be used for Discrimination of Healthy vs Cancer samples

MACHINE LEARNING

Image hosted by: WittySparks.com | Image source: Pixabay.com

Comparison Normal-Colon Cancer Patients

Scientific Background

PBMCs Analysis

> Oncotarget. 2019 May 21;10(36):3328-3338.

Gene expression profiling as a potential predictor between normal and cancer samples in gastrointestinal carcinoma

Panagiotis Apostolou [1], Aggelos C Iliopoulos [1], Panagiotis Parsonidis [1], Ioannis Papasotiriou [1]

Affiliations + expand

PMID: 31164955   PMCID: PMC6534363

Free PMC article

Abstract

Analysis and comparison of gene expression profile among molecules, correlated with essential and crucial biological processes, is of primary importance in cancer research, since it provides significant info regarding the resistance to chemo/radiotherapy, risk for relapse or prediction of metastasis etc. In this study, gene expression profile is used for discriminating efficiently colon cancer cell lines from normal cells and cancer cells in blood samples of colon cancer patients and categorizing different types of gastrointestinal cancer. In particular, blood samples were collected from normal donors as well as from colon cancer patients. Peripheral blood mononuclear cells were isolated and gene expression analysis was performed for more than fifty genes. The same assays were performed for commercial cancer cell lines representing different types of gastrointestinal cancer. In order to examine whether the comparison of gene expression profile can lead to a thorough discrimination between cancer and normal states as well as between different cancer types, we performed clustering analysis based on hierarchical, and k-means algorithms. The clustering analysis efficiently separated: a) colon cancer cell lines from colon patients' samples, b) normal from the colon cancer samples, c) gastric and pancreatic cancer from liver and colon types based. The exploitation of gene expression profile can be successfully used for the discrimination between normal vs cancer samples and/or for categorizing various types of cancer. This of course has important implications in cancer management since it enables the quick discrimination based on cells, isolated from bloodstream, needless of tissue examination or protocols requiring specialized equipment.

Keywords: clustering analysis; gastrointestinal cancer; peripheral blood mononuclear cells; qRT-PCR.
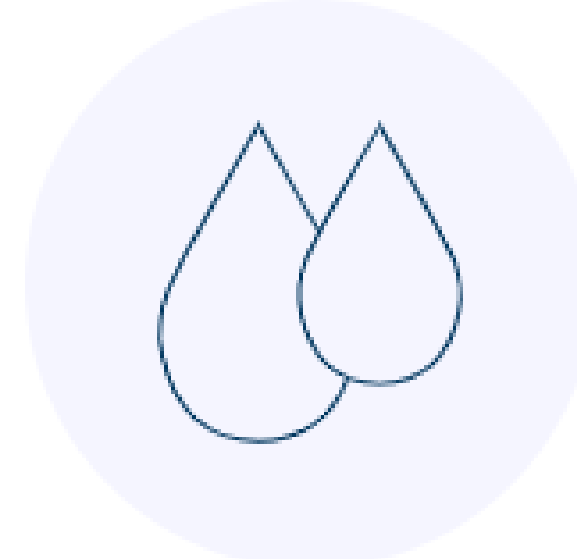
Onco-D-clare

Sample Type

Blood Sample
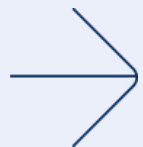
Analysis period

Approx.
7 days

Final results

7-10 days

Sample Size

5-8 ml peripheral
whole blood

Sample Tube

- Blood vials (RGCC)
- Order through the Doctor's Portal

Report

Onco-D-clare RGCC®

Patient				Physician
NAME	DATE OF BIRTH	DISEASE	STAGE	NAME
Mr John Doe	1992-Jun-12	Healthy	N/A	Administrator
SPECIMEN	VIAL IDs			
20ml Blood	1			

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

- Accuracy (%) = 93.34 ± 2.88

- True Positive Rate (%) = 92.40 ± 5.68

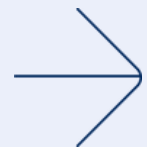- True Negative Rate (%) = 94.78 ± 6.78

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

Summary

Cancer Screening

- Accurate
- Reliable
- Time-effective
- Cost-effective

Questions and Answers about Onco-D-clare

Q: What is **Onco-D-clare?**

A: **Onco-D-clare** is a **screening cancer test** based on Gene expression analysis and Machine Learning Algorithms. Onco-D-clare is a cancer screening test designed to detect cancer even before symptoms appear.

Q: Who is eligible for performing **Onco-D-clare** test?

A: **Anyone**, who would like to perform a sensitive and accurate cancer screening test. It is recommended for people with family cancer history, or vulnerable groups.
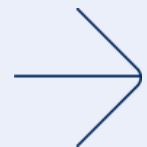
Q: What types of cancer can be detected?

A: **Onco-D-clare** has been validated for all types of cancer except brain and CNS (central nervous system) cancers.

Q: How can we order Onco-D-clare?

A: **Onco-D-clare** can be ordered through the **RGCC** Network using
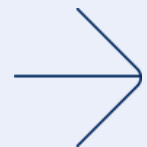
the **RGCC's portal**.

Q: What type of sample is required?

A: **Onco-D-clare** requires 5-8 ml of peripheral blood. Blood is collected in RGCC's glass vials. The analysis period is approximately 7 days, and you get the results in 7-10 days.

Q: How accurate is the test?

A: **Onco-D-clare** can detect a cancer sample with 92.40 % accuracy and a healthy sample with 94.78 % accuracy.

Q: What is the recommended time to repeat **Onco-D-clare?**

A: **Onco-D-clare** can be repeated annually, during your routine screening tests.

Q: Are there solutions in case the Onco-D-clare report classifies the sample as "Cancer"?

A: **RGCC** can be your powerful ally in the fight against cancer.

Onco-D-clare

For any questions, please contact us via contact form here:
rgcc-international.com/contact-us/

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RGCC GROUP

www.rgcc-international.com