novigenix

LITOSeek™

Early Cancer Detection

Precise & Predictive Patient Profiling

Early Detection of Immune Response to Cancer

LITOseek™ provides detailed insights into the cancer-immune landscape, enabling both early disease detection and monitoring of cancer progression into later stages.

Early Detection Saves Lives

Colorectal cancer can develop suddenly, but it typically progresses very slowly before the first symptoms appear. The 5-year survival rate is 85% for patients diagnosed at early stages of the cancer and 95% for patients diagnosed at the precancerous stage of adenomatous polyps.

Colorectal Cancer (CRC) is the 2nd Leading Cause of Cancer Mortality Worldwide

CRC is a highly prevalent cancer worldwide and is largely preventable through early detection and removal of precancerous lesions. With increasing rates in younger adults, there is a pressing need to better understand the evolution of the disease and to take actions for finding the disease early to avert future cases and deaths from the disease.
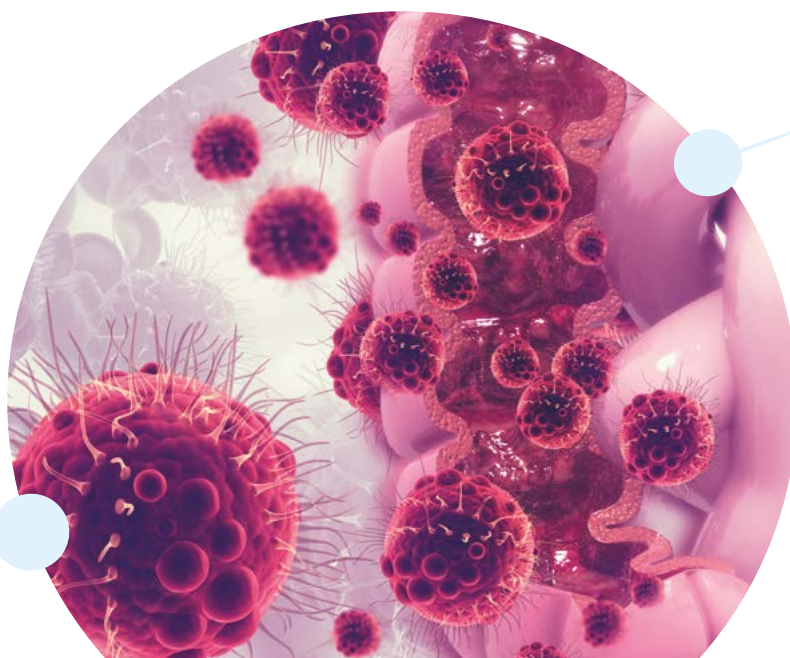
Colorecal Cancer: High Incidence & Mortality Rate

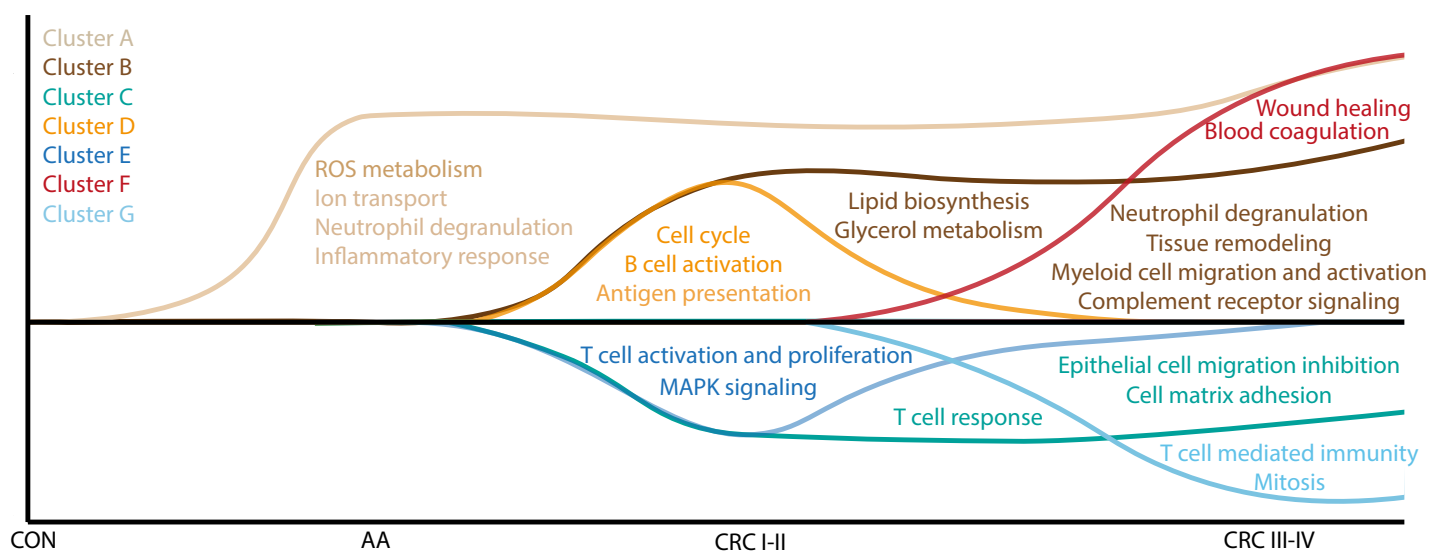- The third most prevalent cancer.
- The second most fatal cancer.
- Preventable through early detection and removal of adenomatous polyps, precursors of cancer.
- Projections for 2040 estimate a 60% increase in CRC incidence rates, highlighting the urgent need for prevention and innovative screening strategies.

1.9 M
New Cases Annually

930'000
Annual Deaths

Precise & Predictive Patient Profiling

Onset & Progression of Colorectal Cancer

The transition from pre-cancerous legions (Advanced Adenomas) to CRC Stage I-II-III in Colorectal Cancer patients is marked by a distinct pattern of the immune response, characterized by varied effector and immune regulatory processes. Through whole blood transcriptomics, LITOSeek™ has characterized these immune responses at various stages of disease progression, revealing specific inflammatory and immune pathways associated with CRC tumorigenesis. Analysis of patient cohorts not only reveals the immune response to onset of the disease and its progression, but also the heterogeneity of patient immune response to the disease.

Cluster A
Cluster B
Cluster C
Cluster D
Cluster E
Cluster F
Cluster G

ROS metabolism
Ion transport
Neutrophil degranulation
Inflammatory response

Cell cycle
B cell activation
Antigen presentation

Lipid biosynthesis
Glycerol metabolism

Wound healing
Blood coagulation

Neutrophil degranulation
Tissue remodeling
Myeloid cell migration and activation
Complement receptor signaling

T cell activation and proliferation
MAPK signaling

Epithelial cell migration inhibition
Cell matrix adhesion

T cell response

T cell mediated immunity
Mitosis

CON   AA   CRC I-II   CRC III-IV

Validated Commercial Colox® for early detection of Colorectal Cancer (CRC)

Novigenix has demonstrated the clinical utility of Immuno-Transcriptomic biomarkers with the validated and commercially available Colox® test, approved in Switzerland for the early detection of Colorectal Cancer (CRC). This first-in-class, best-in-class blood test is now part of routine medical practice and is prescribed by General Practitioners:

A doctor prescribes a Colox® test

A blood sample is taken by doctor or directly by the diagnostic laboratory.

The results are sent to the doctor who then informs the patient.

Colox® is a molecular test which assesses 29 RNA biomarkers in Peripheral Blood Mononuclear Cells (PBMCs) in combination with 2 protein markers in plasma.

The clinical validation of Colox® was completed in a multi-center study that demonstrated performances of the assay for detection of Advanced Adenomas with a sensitivity of 52%, and CRC with a sensitivity of 80%, at a specificity of 90%.

colox

First-in-Class AA detection

52%	**80%**	**90%**
AA Sensitivity	CRC Sensitivity	Specificity

6,000	**400**	**>CH**
Colox tests already sold in Western Switzerland	GP's have already prescribed Colox	Market expansion through partnerships

Colox® gained insurance coverage from Helsana in Q4 2019 and received notable recognition in 2021 by winning the Felix Burda Award in the Medicine & Science Category. Over 400 general practitioners (GPs) have prescribed Colox to more than 5,000 patients in Switzerland.

Next Generation Screening Assays based on Whole Blood RNA Biomarkers

Widespread adoption of screening assays require ease of integration into routine medical practice. To this end Novigenix is developing a next generation ImmunoTranscriptomic blood test on the LITOseek™ platform using stabilized whole blood to overcome the pre-analytic requirements of processing fresh blood. The new test can be implemented widely for the early detection of advanced adenomas (AA) and CRC without any complex sample processing requirements. High performances of the new biomarkers combined with improved adherence rates as compared to other screening methods offers great potential to advance prevention strategies for colorectal cancer.

Conclusions

The LITOSeek™ platform has shown a broad range of applications in precision oncology and offers Precise & Predictive Patient Profiling, including early detection of cancer. The award-winning Colox®, a first-in-class, best-in-class product available in the Swiss market demonstrates the utility of RNA biomarkers in screening applications for the early detection of cancer and pre-cancerous lesions, where high therapeutic responses lead to improved patient outcomes.

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