NEO GENOMICS

Multiplexed Immunofluorescence Bibliography

Peer-reviewed journals
Oral Presentations
Conference Posters
Webinars

NeoGenomics is a leader in the field of multiplexed immunofluorescence services

Multiplex immunofluorescence has emerged as an effective and proficient approach to simultaneously identify specific proteins and immune cell types, to determine the spatial distribution and activation state of immune cells, as well as the expression of immune modulators, all at the same time. This method is highly beneficial for exploring immune evasion mechanisms and finding potential biomarkers that allow researchers to assess the mechanism of action and predict and monitor drug response.

NeoGenomics' Pharma Services offer two multiplex immunofluorescence platforms: MultiOmyx™ and Vectra® Polaris™

This brochure outlines the numerous presentations and publications describing the use of either MultiOmyx or Vectra Polaris.

NEO GENOMICS

Peer-Reviewed Publications

2020

BL-8040, a CXCR4 antagonist, in combination with pembrolizumab and chemotherapy for pancreatic cancer: the COMBAT trial
Bockorny B. et al. Nat Med. 2020 Jun;26(6):878

2019

Immune Profiling and Quantitative Analysis Decipher the Clinical Role of Immune-Checkpoint Expression in the Tumor Immune Microenvironment of DLBCL
Xu-Monette ZY. et al. Cancer Immunol Res. 2019, Apr;7(4):644

2017

Oncolytic Virotherapy Promotes Intratumoral T Cell Infiltration and Improves Anti-PD-1 Immunotherapy
Ribas A. et al. Cell. 2017, Sep 7;170(6):1109

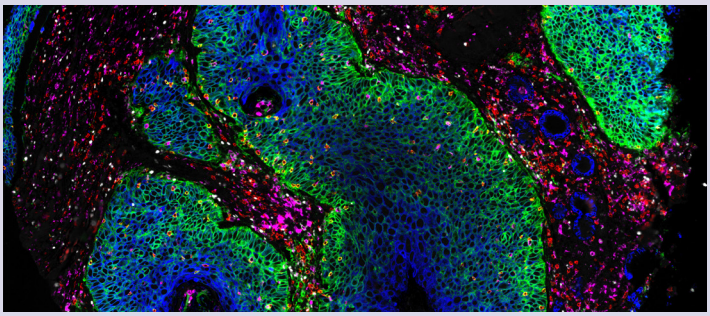
2014

Excess PLAC8 promotes an unconventional ERK2-dependent EMT in colon cancer
Li C. et al. J Clin Invest. 2014 May;124(5):2172

A single slide multiplex assay for the evaluation of classical Hodgkin lymphoma
Hollman-Hewgley D. et al. Am J Surg Pathol. 2014 Sept;38(9):1193

2013

Highly multiplexed single-cell analysis of formalin-fixed, paraffin-embedded cancer tissue
Gerdes MJ. et al. Proc Natl Acad Sci USA. 2013 Jul;16;110(29):11982



MultiOmyx overlay image of NSCLC tissue multiplexed with 12-marker panel. PanCK (blue), CD8 (red), FoxP3 (white), CD68 (magenta), and PD-L1 (green).

Conference Oral Presentations

2021

Profiling Exhausted T Cells using Vectra® Polaris™ Multiplex Immunofluorescence Assay in HNSCC
Sara Pollan
Molecular Med TRI-CON
Virtual, February

2020

Machine Learning for Tumor and Cell Segmentation and Cell Classification within the Tumor Microenvironment
Mate Levante Nagy
Immuno-Oncology 360°
New York, February 28

For more information please contact:
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2020 Continued

Characterizing the Bone Marrow Immune Contexture of Acute Myeloid Leukemia using MultiOmyx™
Qingyan Au
Molecular Med TRI-CON
San Francisco, March 3

Leveraging single-cell level multiplexed IF analysis for a deeper understanding of IO biomarkers in the tumor microenvironment
Anna Juncker-Jensen
Next Gen Immuno-Oncology Congress
Virtual

Profiling Exhausted T Cells using Vectra® Polaris
Sara Pollan
Akoya Biosciences User Group Meeting
Virtual

Cell Segmentation, Classification, and Spatial Analysis for Dual-IHC and MultiOmyx™ Assays Using Deep Learning
Mate Levante Nagy
Merck Technology Symposium
Virtual

2019

Using MultiOmyx™ hyperplexed assay to detect immunosuppressive cells and their mechanisms in triple-negative breast cancer
Anna Juncker-Jensen
Molecular Med TRI-CON
San Francisco, March 12

Detecting Immunosuppressive Cells and Their Mechanisms by Multiplex Immunofluorescence
Anna Juncker-Jensen
World CB&CDx Europe
London UK, April 17

Comparing Immune Cell Populations and Novel Biomarkers in Subtypes of Non-Small Cell Lung Cancer
Anna Juncker-Jensen
Molecular Diagnostics Europe
Lisbon Portugal, May 8

An Integrated Approach of Immuno-phenotyping Tumor FFPE Samples by MultiOmyx™ Multiplexed Protein Assay and Nanostring PanCancer Gene Expression Analysis
Anna Juncker-Jensen
Annual Bioanalytical Conference
Madison MI, July 14

Characterization of Immunosuppressive Cells Using MultiOmyx™ Hyperplexed Immunofluorescence Assay in Hematological Malignancies
Qingyan Au
2019 the Japanese Society of Medical Oncology Annual Meeting
Kyoto, July 20

Novel Perspectives on the Immune Environment of Acute Myeloid Leukemia Using MultiOmyx™
Josette William
Immuno-Oncology 360°
New York, Feb 6

2018

Using MultiOmyx™ to Distinguish between M1/M2 TAMs, and MDSCs in the Pancreatic Tumor Microenvironment
Anna Juncker-Jensen
Merck Technology Symposium
Long Branch NJ, September 6

Conference Posters

2021

Perivascular Accumulation of Immunosuppressive Cells in the Stroma of Human Triple Negative Breast Carcinomas: Implications for Immunotherapy.
Moamin MR. et al.
AACR Virtual

Characterizing viral mRNA and immuno-protein expression in head and neck squamous cell carcinoma using a novel automated RNAScope™/ Polaris™ integrated assay
Pollan SG. et al.
AACR Virtual

Comprehensive Analysis of immuno oncology markers in the TME of solid tumor samples using GeoMx™ Digital Spatial Profiler (DSP) and MultiOmyx™ Hyperplexed Immunofluorescence (IF).
Chandramohan L. et al.
AACR Virtual

Improving MultiOmyx™ Analytics cell classification workflow efficiency by Invariant Information Clustering on historical data
Reddy V. et al.
AACR Virtual

Co-detection of a tumor-infiltrating lymphocyte immunofluorescence (IF) panel and cytokine RNA in-situ hybridization (ISH) markers in non-small cell lung cancer (NSCLC) tumor microenvironment using combined MultiOmyx and RNAScope platforms
Todorov C. et al.
AACR Virtual

2020

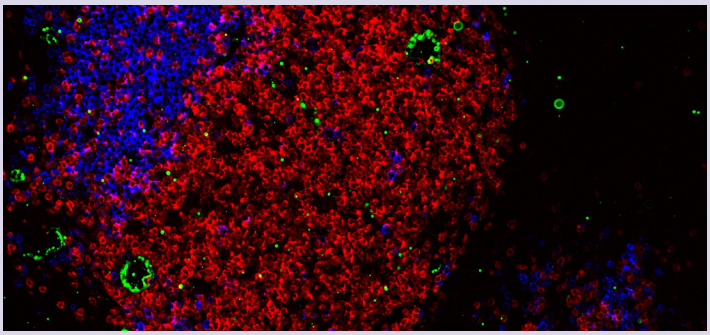
Distinguishing dendritic cell subtypes in the tumor microenvironment using MultiOmyx™
Gozo M. et al.
AACR Virtual

Profiling exhausted T cells using Vectra® Polaris™ multiplex immunofluorescence assay in HNSCC
Pollan S. et al.
AACR Virtual

Reduction of tumor-infiltrating B cells linked to recurrence of NSCLC tumors
Juncker-Jensen A. et al.
AACR Virtual

Spatial analytics of the tumor microenvironment on double stained immunohistochemistry images using deep learning
Nagy ML et al.
AACR Virtual

Using multiplexed immunofluorescence to quantitatively analyze myeloid derived suppressor cells (MDSCs) in relation to tertiary lymphoid structures (TLS) in bladder cancer
Juncker-Jensen A. et al.
SITC Virtual



MultiOmyx overlay image of a TLS structure in bladder cancer tissue, multiplexed with 12-marker panel. CD3 (blue), CD20 (red), and PNAd (green).

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2019

Pro-Tumorigenic Mechanisms of M2 Tumor-Associated Macrophages in Triple-Negative Breast Cancer
Juncker-Jensen A. et al.
AACR, Atlanta GA

Characterization of TIGIT Expression Using MultiOmyx™ Hyperplexed Immunofluorescence Assay in NSCLC and melanoma
Au Q. et al.
AACR, Atlanta GA

Using a Multiplexed Immunofluorescence Approach to Compare Immune Cell Populations in Subtypes on Non-Small Cell Lung Cancer
Juncker-Jensen A. et al.
WCLC, Barcelona Spain

An Integrated Multiplexing Approach for the Immunoprofiling of the Tumor Microenvironment of Ovarian Granulosa Cell Tumors
Juncker-Jensen A. et al.
EORTC, Boston MA

An Integrated Multiplexing Approach Identifies IDO1 as a Biomarker for Recurrence of Rare Ovarian Granulosa Cell Tumors
Juncker-Jensen A. et al.
SITC, National Harbor MD

Pro-Tumorigenic Mechanisms of M2 Tumor-Associated Macrophages in Triple-Negative Breast Cancer
Juncker-Jensen A. et al.
Keystone Symposium, Santa Fe NM

Phenotypic Characterization of the Immune Landscape in the Bone Marrow of Patients with Acute Myeloid Leukemia (AML) Using MultiOmyx™ Hyperplexed Immunofluorescence Assay
Au Q. et al.
ASH, Orlando FL

PD-1 and LAG-3 synergize to drive tumor-infiltration of T cytotoxic cells in NSCLC tumors
Juncker-Jensen A. et al.
ESMO IO, Geneva Switzerland

2018

Tumor-Infiltrating Myeloid Cells – Using MultiOmyx™ to Distinguish between TAMs, TANs, and MDSCs in the Pancreatic Tumor Microenvironment
Juncker-Jensen A. et al.
AACR, Chicago IL

Efficient Large Scale Cell Classification and Analysis for MultiOmyx™ Assays: A Deep Learning Approach
Nagy ML. et al.
AACR, Chicago IL

Demonstration of Anti-Tumor Immunity via Intratumoral Regulated Platform Ad-RTS-hIL-12 in Advanced Breast Cancer and Recurrent Glioblastoma Patients
Lebel FM. et al. - Ziopharm Oncology
ASCO, Chicago Il

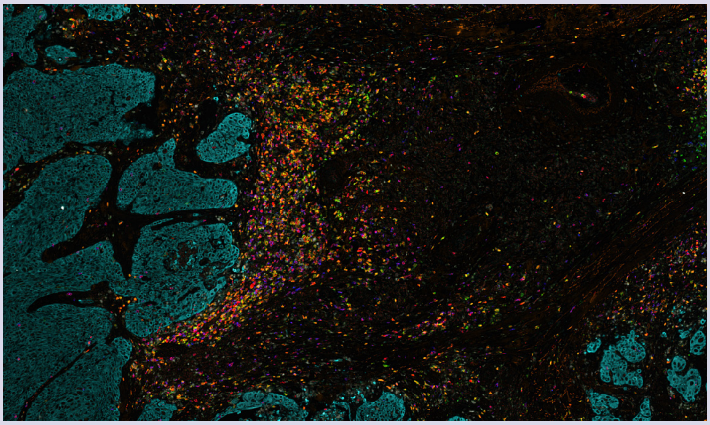
Identification of predictive and pharmacodynamic biomarkers associated with the first-in-class selective AXL inhibitor bemcentinib across multiple phase II clinical trials
Holt RJ. et al. - BerGenBio
ASCO, Chicago Il

Using MultiOmyx™ to Analyze Correlations between Immunosuppressive Cells and Tumor-Infiltrating Lymphocytes in the Pancreatic Tumor Microenvironment
Juncker-Jensen A. et al.
ESMO, Munich Germany

First in Human Study with GSK3359609, Inducible T cell Co-stimulator Receptor Agonist in Patients with Advanced, Solid Tumors: Preliminary Results from INDUCE-1
Hansen AR. et al. - GSK
ESMO, Munich Germany

Characterization of Myeloid-Derived Suppressor Cells and Tumor Associated Macrophages Using MultiOmyx™ Hyperplexed Immuno-Assay in Hodgkin Lymphoma
Au Q. et al.
ASH, San Diego CA

Using a Multiplexed Immunofluorescence Assay to Detect Immunosuppressive Cells and their Mechanisms in the Pancreatic Tumor Microenvironment
Juncker-Jensen A. et al.
ESMO IO, Geneva Switzerland



Vectra Polaris overlay image of HNSCC tissue multiplexed with a 6-marker panel. PanCK (cyan), CD3 (red), CD4 (green), CD8 (blue) CD68 (white), and FoxP3 (orange).

2017

Integrated Analysis of MicroRNA, mRNA, and Protein Expression Utilizing MultiOmyx™ and NanoString™ from Formalin-Fixed Paraffin-Embedded, Lung, Head and Neck, Breast, and Melanoma Tumors
Au Q. et al.
AACR, Washington DC

2016

MultiOmyx™ multiplexed tumor infiltrating lymphocyte panel provides comprehensive immunophenotyping from a single FFPE slide
Au Q. et al.
AACR, New Orleans LA

Detection of IFNγ induced PD-L1 expression by combined in situ RNA analysis and protein profiling from a single FFPE slide
Au Q. et al.
AACR, New Orleans LA

2015

MultiOmyx™: A multiplexed immunofluorescent assay capable of profiling protein expression and phosphorylation, in combination with next-generation sequencing from a single FFPE tissue section
Au Q. et al.
AACR, Philadelphia PA

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Webinars

2021

Profiling Exhausted T-cells using Vectra Polaris Multiplex Immunofluorescence
Sara Pollan
January 19

2020

Leveraging single-cell level multiplexed immunofluorescence for characterizing the tumor microenvironment after IO biomarker targeting in clinical trials
Anna Juncker-Jensen
November 10

Routine Use of AI Towards Automating Histopathology Analysis
Mate Levante Nagy
December 9

运用MultiOmyx™超多标免疫荧光技术平台深度解析肿瘤微环境
Qingyan Au
October 29

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