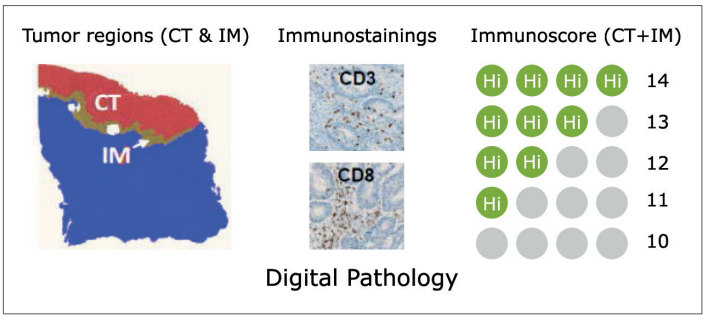
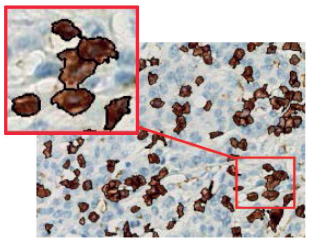
DEFINIENS®
the tissue phenomics company

Immunoscore: An Automated Assessment Of Immune Response As Prognostic Biomarker for Colorectal Cancer





Detection of stained cells is adapted to the shape and morphology of lymphocytes.

The quantification of immune response, the Immunoscore, using Definiens image analysis identified a better predictor of disease-free survival for colorectal cancer patients than traditional TNM tumor staging. The Immunoscore is currently being validated in a worldwide clinical study. *(Figure above from Galon et al., J Transl Med. 2012; 10: 205)*

Study Synopsis

- Proof of concept of automated image analysis and quantification of the immune response in colorectal cancer using whole slide images.
- Automated detection of the tumor invasive margin by image analysis after manual annotation of tumor regions.
- Immunohistochemical detection of cytotoxic (CD8+) and memory ($CD_{45}RO$+) T cells, separately, in tumor and invasive margin.
- Correlation of immune response with clinical outcome.

Benefits

- Better patient therapy: Identify high risk patients and improve selection of patients for adjuvant therapy as compared to the current standard of care.
- Better data: Automated detection and quantification of immune cells in whole slide images increases objectivity and reproducibility of the analysis. Target structures are precisely identified despite significant variation in tumor morphology and staining conditions.

Implications

- The study highlights the importance of systematically quantifying immune cells in cancer specimens.
- Capturing information contained in histological slides, much of which is currently inaccessible, can lead to the development of better diagnostic and prognostic tools for guiding patient therapy.
- Findings are being validated in a clinical study involving more than 30 sites worldwide in order to bring the Immunoscore to clinical routine.

Additional Information

This study was presented by Jerome Galon at the 4th International Definiens Symposium
The findings are published in Journal of Translational Medicine 2012, 10:1
(http://www.ncbi.nlm.nih.gov/pubmed/22214470)

Contact Us: www.definiens.com · info@definiens.com · Europe: +49-89-231180-0 · North America: +1-760-893-8900