UCLA Inventors Identify Specific Molecular Diagnostic Markers For Colon Cancer

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BRIEF DESCRIPTION

UCLA researchers in the Division of Digestive Disease in the Department of Medicine at the David Geffen School of Medicine, led by Drs. Charalabos Pothoulakis and Dimitrios Iliopoulos, have identified several biomolecules that are potential diagnostic markers for colon cancer. These markers can be used singularly or combined, depending on the diagnostic testing need. There is increased flexibility for testing as a positive correlation is related to increased marker levels, decreased marker levels, or the presence of the molecule, depending on the biomarker.

ADVANTAGES

- Biomolecular markers easily identified from biopsy tissue
- Advanced, FDA-approved diagnostic equipment can be used to measure microRNAs
- Increased levels, decreased levels, and presence of biomarkers correlate to disease
- Stage of cancer correlated to measured levels of biomolecules
- Markers include microRNAs 133α, 21, and 155, Aftiphilin, Neurotensin 1 Receptor, PTEN, and MYD88

FULL DESCRIPTION

Colon cancer is the third most common cancer in both men and women and the second leading cause of death from cancer in North America. Current treatment options include surgery alone or in combination with chemotherapy. Although early intervention by surgery can cure up to 90% of patients, colon cancer is often diagnosed at an advanced stage, with colonoscopy as one of the most sensitive screening tests available. To detect colon cancer early and to supplement current testing methods, new diagnostic tests are needed.

RELATED MATERIALS

- Bakirtzi, K, et al. Neurotensin Signaling Activates MicroRNAs-21 and -155 and Akt, Promotes Tumor Growth in Mice, and Is Increased in Human Colon Tumors. Gastroenterology 2011 Nov;141(5):1749-61
- Law, IK, et al. Neurotensin-regulated miR-133alpha is involved in proinflammatory signaling in human colonic epithelial cells and in experimental colitis. Gut 2015 Jul;64(7):1095-104.
- Neurotensin-induced tumor formation is regulated by micro RNA-133alpha-Aftiphilin-dependent receptor recycling. PCT/US2014/038624

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OTHER INFORMATION

KEYWORDS

Inflamatory Bowel Disease, IBD, colitis, ulcerative colitis, colon cancer, Crohn’s Disease, microRNA, aftiphilin, cathelicidin

CATEGORIZED AS

- **Medical**
  - Diagnostics
  - Disease: Cancer

- MIR-133alpha as a marker and therapeutic target for colitis and inflammatory bowel disease. PCT/US2014/055493

OTHER INFORMATION

References: UCLA Cases 2013-778, 2013-787, 2013-401, 2014-284, 2015-113, 2015-276, 2015-851

Pothoulakis Group: http://gastro.ucla.edu/body.cfm?id=131

Iliopoulos Group: http://gastro.ucla.edu/body.cfm?id=157

Additional technologies available from the Pothoulakis group: http://bit.ly/1WXT3Q6

Additional technologies available from the Iliopoulos group: http://bit.ly/1OPohUU

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