Cripto-1 Represents a Biomarker for Chronic Inflammatory Diseases

Published date: Feb. 1, 2012

Technology description

Summary

Chronic inflammatory bowel disease (IBD) (e.g. Crohn’ s disease and ulcerative colitis) and chronic inflammatory arthropathy such as rheumatoid arthritis represent an enormous socio-economic burden due to the cost for long term medication and rehabilitation and the decreased productivity due to periods of acute recurrences. A major characteristic of these diseases is the tissue infiltration of specific CD4+ T cells that sustain inflammation by secreting cytokines. One of these cytokines, TNF-alpha, is a current therapeutic target for the treatment of these chronic inflammatory diseases.
This technology describes Cripto-1 as a biomarker for chronic inflammatory diseases. Cripto-1, an epidermal growth factor (EGF)-related protein, shows higher expression levels in tissue sections of Crohn’ s disease, ulcerative colitis, and rheumatoid arthritis as compared to adjacent unaffected areas. Moreover, the inventors show that the response to Cripto-1 is not due to a generic immune response, and Cripto-1 expression increases the expression of TNF-alpha in CD4+ T cells in tissues affected by chronic inflammatory disease. As a result, this technology could be used as a diagnostic biomarker for chronic inflammatory diseases as well as a novel therapeutic target to help control TNF-alpha in chronic inflammatory diseases.

Application area

Diagnostic tool for the detection of a chronic inflammatory disease.
Method to inhibit cytokine production in a tissue affected with a chronic inflammatory disease.
Development Status:
The technology is currently in the pre-clinical stage of development.

Institution

NIH - National Institutes of Health

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