

Apply of Textmining Method to Study the Roles in Improving the Health by Lactoferrin, a Multi-Functional Milk Protein

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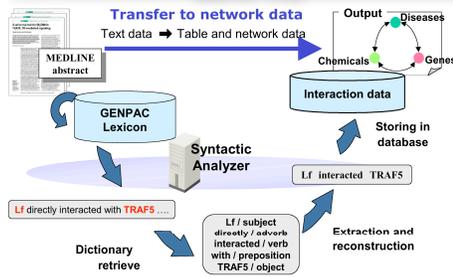
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Summary

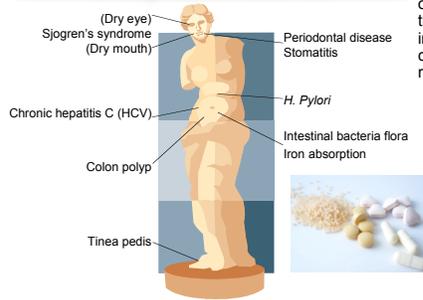
To date, a number of academic reports concerning the biological activities of lactoferrin have been published and are easily accessible through public databases. In order to overcome the information overload associated with lactoferrin information, we have applied the text mining method to the accumulated lactoferrin literature. To this end, we used the information extraction system GENPAC (provided by Nalapro Technologies Inc., Tokyo), which uses natural language processing and text mining technology. Using GENPAC, text extraction was carried out on literature containing the term "lactoferrin" and any of keywords concerning health conditions or diseases from PubMed. Subsequently, network mappings of the information obtained were produced using Cytoscape.

In this poster, we show three examples of lactoferrin's functional pathways estimated by the textmining method. They are "lactoferrin and angiogenesis pathways", "possible participation of lactoferrin against *H. pylori*'s attack" and "possible participations of lactoferrin and flavonoid against atopic dermatitis".

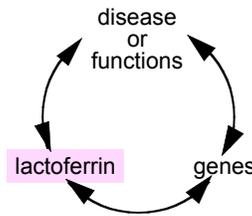
Information extraction by GENPAC



Effectiveness of lactoferrin orally administered

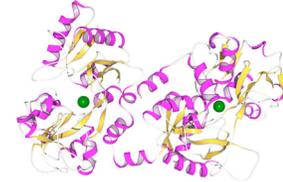


Our purpose

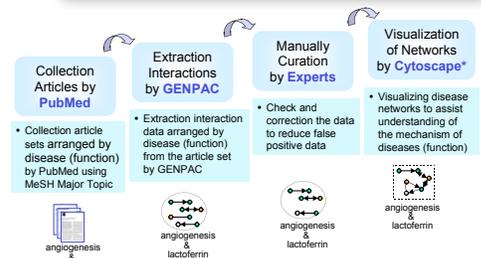


What is Lactoferrin?

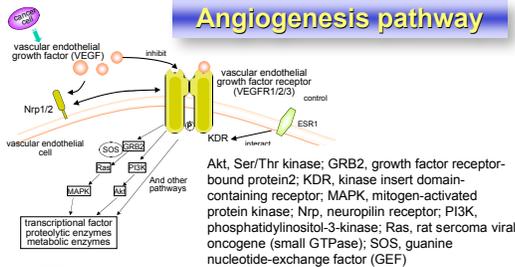
Lactoferrin is a metal-binding glycoprotein found in milk, blood and other exocrine secretions. Lactoferrin is a multi-functional protein that exhibits many activities such as: anti-microbial, anti-viral, immunomodulatory, anti-inflammatory, anti-tumor, anti-metastatic, cell growth-promoting, and anti-oxidant activities, as well as regulation of granulopoiesis and iron absorption, etc.



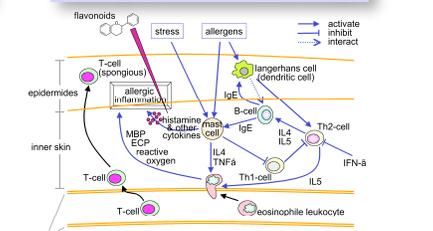
Four Step Process of extracting lactoferrin network



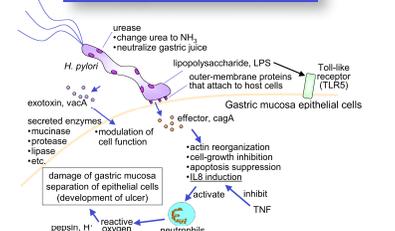
Angiogenesis pathway



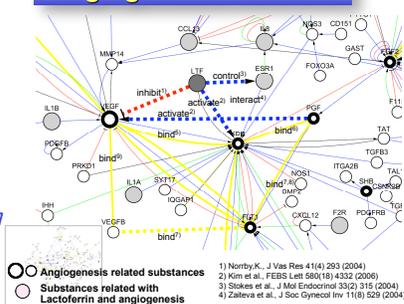
Atopic dermatitis map



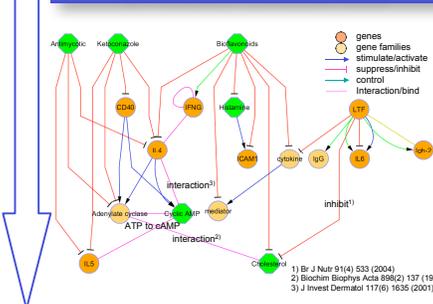
H. pylori's attack



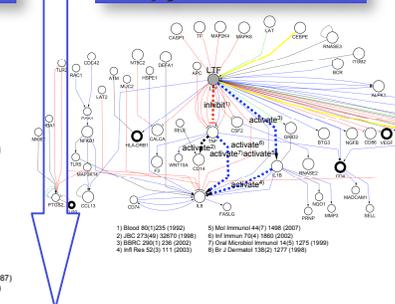
Lactoferrin and angiogenesis network



Network of atopic dermatitis & related substances



Map of Lactoferrin & H. pylori networks



Possible participation maps of lactoferrin against angiogenesis, atopic dermatitis & H. pylori

