Medical Xpress

Protein heals wounds, boosts immunity and protects from cancer

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Hans Vogel, a professor in the biological sciences department, is the guest editor of a special issue of the journal *Biochemistry and Cell Biology* that focuses on lactoferrin, an important iron-binding protein with many health benefits.

"Some people describe this protein as the 'Swiss army knife' of the human host defense system," says Vogel. "We now know that lactoferrin has many functions in innate immunity and that it plays a role in protecting us from bacterial, viral, fungal, and protozoal infections. It can even protect us from some forms of cancer."

Lactoferrin—which is secreted into human milk, blood and other biofluids—has attracted a lot of interest from academics and industry. Furthermore, Vogel says it's likely the only protein that garners its own regular scientific conference. Researchers are starting to use lactoferrin as a potential therapeutic protein, one that can be taken orally instead of injected like other proteins.

"Lactoferrin is quite an unusual protein that has many effects on health," Vogel says. "It is also used as a general health-promoting substance, and in Japan it is added to infant formula."

The June issue of the journal includes 27 peer reviewed papers from leading international researchers on topics including the role of lactoferrin on small intestinal growth and development during early life, use of bovine lactoferrin to inhibit influenza and how the protein may

prevent some preterm deliveries.

The protein may also have an important role in wound healing, says Vogel. "We've been working in this area for about 15 years and it's cool to see how the whole field slowly progresses, and you start to see more and more interesting applications. It is particularly exiting to see that clinical trials are now going on in the infectious disease area and in cancer."

Vogel says being a guest editor was a lot of work and a lot of fun. He also wrote an introductory article for the special issue that provides an overview of the current status of research into the protein. Read the open access article:
http://www.nrcresearchpress.com/doi/full/10.1139/o2012-016

More information: Biochemistry and Cell Biology, Published on the web 27 April 2012, doi: 10.1139/o2012-016

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