



Uploaded to the VFC Website

▶▶▶ 2023 ◀◀◀

This Document has been provided to you courtesy of Veterans-For-Change!

Feel free to pass to any veteran who might be able to use this information!

For thousands more files like this and hundreds of links to useful information, and hundreds of "Frequently Asked Questions, please go to:

[Veterans-For-Change](#)

If Veterans don't help Veterans, who will?

Note:

VFC is not liable for source information in this document, it is merely provided as a courtesy to our members & subscribers.



Breakthrough discovery could lead to better treatments for colon cancer, gut diseases

Nov 3 2017

Colon cancer, Crohn's, and other diseases of the gut could be better treated - or even prevented - thanks to a new link between inflammation and a common cellular process, established by the University of Warwick.

Led by Dr Ioannis Nezis at Warwick's School of Life Sciences, new research demonstrates that autophagy - an essential process whereby cells break down and recycle harmful or damaged elements within themselves to keep our bodies healthy - causes tissue inflammation when dysfunctional, which in turn leaves us susceptible to harmful diseases, particularly in the gut.

Understanding this link could lead to more effective treatments for gut diseases - such as colon cancer, irritable bowel syndrome, Crohn's disease and ulcerative colitis - giving healthcare professionals the ability to target the root cause of these diseases, by regulating and controlling autophagy.

Foods such as pomegranates, red grapes, pears, mushrooms, lentils, soybeans and green peas contain natural compounds which can activate autophagy, helping to prevent inflammation and gut diseases.

In a new paper published in Nature Communications, Dr Nezis and colleagues have identified - for the first time - a protein which is regulated by autophagy. Called Kenny, the protein contains a motif of amino acids that causes itself to be broken down by autophagy. When autophagy is dysfunctional, Kenny accumulates and causes inflammation.

The researchers identified this phenomenon in fruit flies, by turning Kenny fluorescent - so it would be visible - and observing at a microscopic level that the protein was present in the cell where autophagy was occurring.

They also noted that dysfunctional autophagy causes serious inflammation in fruit flies - particularly in the gut - which makes tissue inflamed, causing disease, and making the lifespan of a fruit fly half that of other flies. To prevent serious diseases of the gut caused by inflammation, Dr Nezis and his colleagues state that it is necessary to find ways to control and regulate

autophagy.

Humans are in even more danger from the link between autophagy, inflammation, and a dysfunctional or diseased gut - because our bodies lack the regular motif of amino acids which Kenny uses in fruit flies, making its breakdown by autophagy difficult to control or regulate.

Dr Ioannis Nezis, the lead author of the research, commented:

"Understanding the molecular mechanisms of selective autophagy and inflammation will help to use interventions to activate the autophagic pathway to prevent inflammation and promote healthy well-being during the life course.

"Natural compounds contained in fruits and vegetables like pomegranates, red grapes, pears, mushrooms, lentils, soybeans and green peas have been shown to activate autophagy, therefore inclusion of the above in our diet would help to prevent inflammation and alleviate the symptoms of gut diseases."

Source:

https://warwick.ac.uk/newsandevents/pressreleases/colon_cancer_breakthrough/
